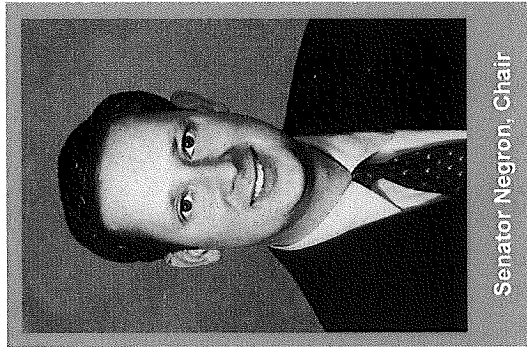


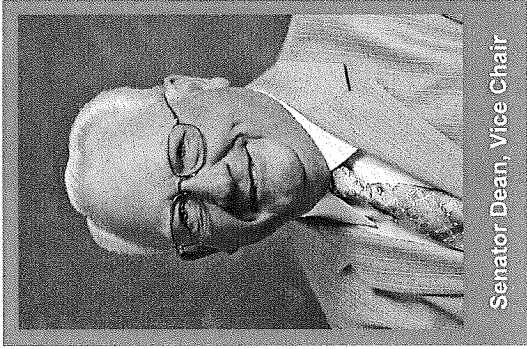
COMMITTEE MEETING EXPANDED AGENDA**SELECT COMMITTEE ON THE INDIAN RIVER LAGOON
AND LAKE OKEECHOBEE BASIN****Senator Negron, Chair**
Senator Dean, Vice Chair**MEETING DATE:** Thursday, August 22, 2013**TIME:** 1:00 —9:00 p.m.**PLACE:** Charles and Rae Kane Center, 900 SE Salerno Road, Stuart, FL**MEMBERS:** Senator Negron, Chair; Senator Dean, Vice Chair; Senator Montford, Vice Chair; Senators Altman, Benacquisto, Grimsley, Hays, Joyner, and Sachs

TAB	BILL NO. and INTRODUCER	BILL DESCRIPTION and SENATE COMMITTEE ACTIONS	COMMITTEE ACTION
<p data-bbox="186 590 1094 695">This workshop is for receiving expert and public testimony on activities affecting water management in the Indian River Lagoon and Lake Okeechobee Basin. Specifically, participants will be asked to discuss the short term options or alternatives to reduce or eliminate the current releases from Lake Okeechobee.</p>			
<p data-bbox="186 840 542 861">Other related meeting documents</p>			

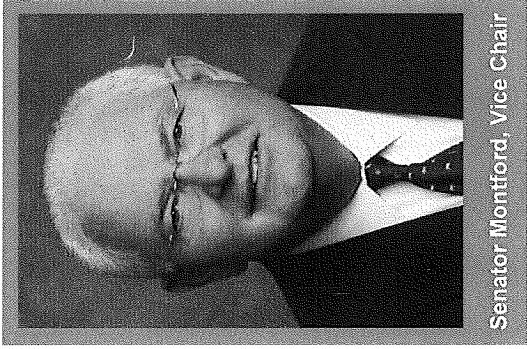
Senate Select Committee on Indian River Lagoon and Okeechobee Basin



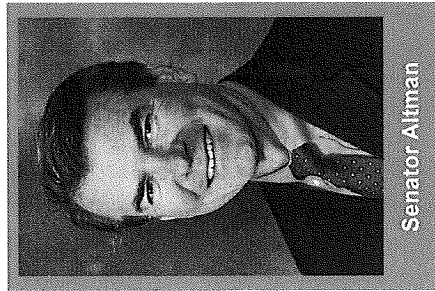
Senator Negron, Chair



Senator Dean, Vice Chair



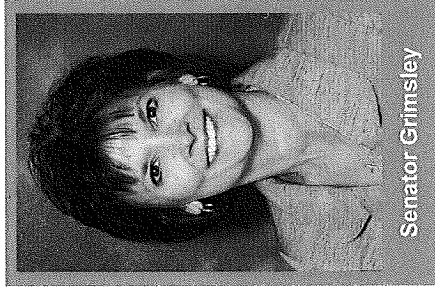
Senator Montford, Vice Chair



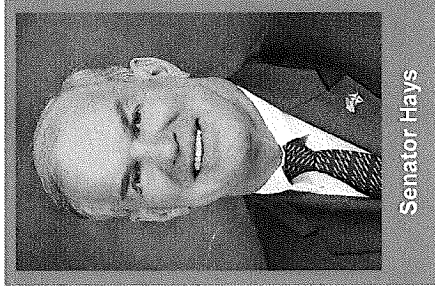
Senator Altman



Senator Benacquisto



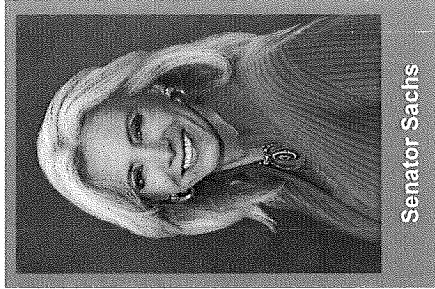
Senator Grimsley



Senator Hays



Senator Joyner



Senator Sachs



THE FLORIDA SENATE
SELECT COMMITTEE ON INDIAN RIVER LAGOON
AND LAKE OKEECHOBEE BASIN

Location
325 Knott Building

Mailing Address
404 South Monroe Street
Tallahassee, Florida 32399-1100
(850) 487-5372

Senator Joe Negron, *Chair*
Senator Charlie Dean, *Vice Chair*
Senator Bill Montford, *Vice Chair*

Professional Staff:
Pepper Uchino and Jamie DeLoach, *Staff Directors*
Senate's Website: www.flsenate.gov

Select Committee Workshop to Explore Short-Term Solutions or Alternatives to Reduce or Eliminate Current Releases from Lake Okeechobee

Date: Thursday, August 22, 2013
Time: 1:00 p.m. – 9:00 p.m.
Location: Charles and Rae Kane Center
900 SE Salerno Road
Stuart, Florida 34997

AGENDA

Opening Remarks

Senator Joe Negron, *Chair*
United States Congressman Patrick Murphy (D, FL-18)
Secretary Herschel Vinyard, Florida Department of Environmental Protection

Public Testimony on Opening Remarks

Overview/Framework

Ernie Barnett, Interim Executive Director, South Florida Water Management District
Colonel Alan Dodd, District Commander, Jacksonville District,
United States Army Corps of Engineers

Public Testimony on Overview/Framework

Technical Panel

Tom Van Lent, Ph.D., Senior Scientist, The Everglades Foundation
Brian Lapointe, Ph.D., Research Professor, Harbor Branch Oceanographic Institute of
Florida Atlantic University
Drew Bartlett, Director, Division of Environmental Research and Restoration,
Florida Department of Environmental Protection
Roland Ottolini, Director, Lee County Division of Natural Resources

Public Testimony on Technical Panel

Community Round Table 1

Kevin Henderson, Evergreen Engineering
Mark Perry, Executive Director, Florida Oceanographic Society
Commissioner Jacqui Thurlow-Lippisch, Town of Sewall's Point
Eric Draper, Executive Director, Audubon Florida

Community Round Table 2

Tom MacVicar, President, MacVicar Consulting
Bubba Wade, Jr., Senior Vice President of Corporate Strategy and Business Development,
United States Sugar Corporation
Fred Fanizzi, General Manager, Quail Creek Plantation
David Hille, Chairman, Cabbage Inc.

Public Testimony on Community Round Tables 1 and 2

Additional Invited Elected Officials

Commissioner Sarah Heard, Chair, Board of County Commissioners, Martin County
Commissioner Tim Zorc, Indian River County
Commissioner Chris Dzadovsky, St. Lucie County
Representative Gayle Harrell (R, District 83)
Representative Larry Lee (D, District 84)
Representative Debbie Mayfield (R, District 54)
Representative MaryLynn "ML" Magar (R, District 82)
Mayor Kevin Ruane, City of Sanibel

Public Testimony on Short-term Options or Alternatives to Reduce or Eliminate the Current Releases from Lake Okeechobee.

Adjournment

ACRONYMS & ABBREVIATIONS LIST
Senate Select Committee on Indian River Lagoon and
Lake Okeechobee Basin

Abbreviations	<i>What it Means</i>
298	Chapter 298, F.S., Water Control District
2008 LORS	2008 Lake Okeechobee Regulation Schedule
ac-ft	Acre-feet or Acre-foot; 1 cfs per 24 hours = 1.98 ac-ft.
ASR	Aquifer Storage and Recovery
ACOE/Corps/USACE	United States Army Corps of Engineers
ACSC	Area of Critical State Concern
AWS	Alternative Water Supply
BMAP	Basin Management Action Plan
BMP	Best Management Practice
C&SF	Central & Southern Florida Project for Flood Control & Other Purposes
C-43 Canal	Caloosahatchee River
C-44 Canal	St. Lucie Canal
CERP	Comprehensive Everglades Restoration Plan
CEPP	Central Everglades Planning Project
CFS	Cubic Feet per Second
CFWI	Central Florida Water Initiative
Chief's Report	Final report signed by the Corps' Chief of Engineers and submitted to Congress for authorization of a project
COPs	Certifications of Participation
CUP	Consumptive Use Permit
DACS	Florida Department of Agriculture & Consumer Services
DEP	Florida Department of Environmental Protection
DOH	Florida Department of Health
DWM	Dispersed Water Management
DWS	Dispersed Water Storage
EAA	Everglades Agricultural Area
EIS	Environmental Impact Statement
ECP	Everglades Construction Project
EFA	Everglades Forever Act
ENP	Everglades National Park
EOG	Florida Executive Office of the Governor
EPA	Everglades Protection Area
EPA	U.S. Environmental Protection Agency

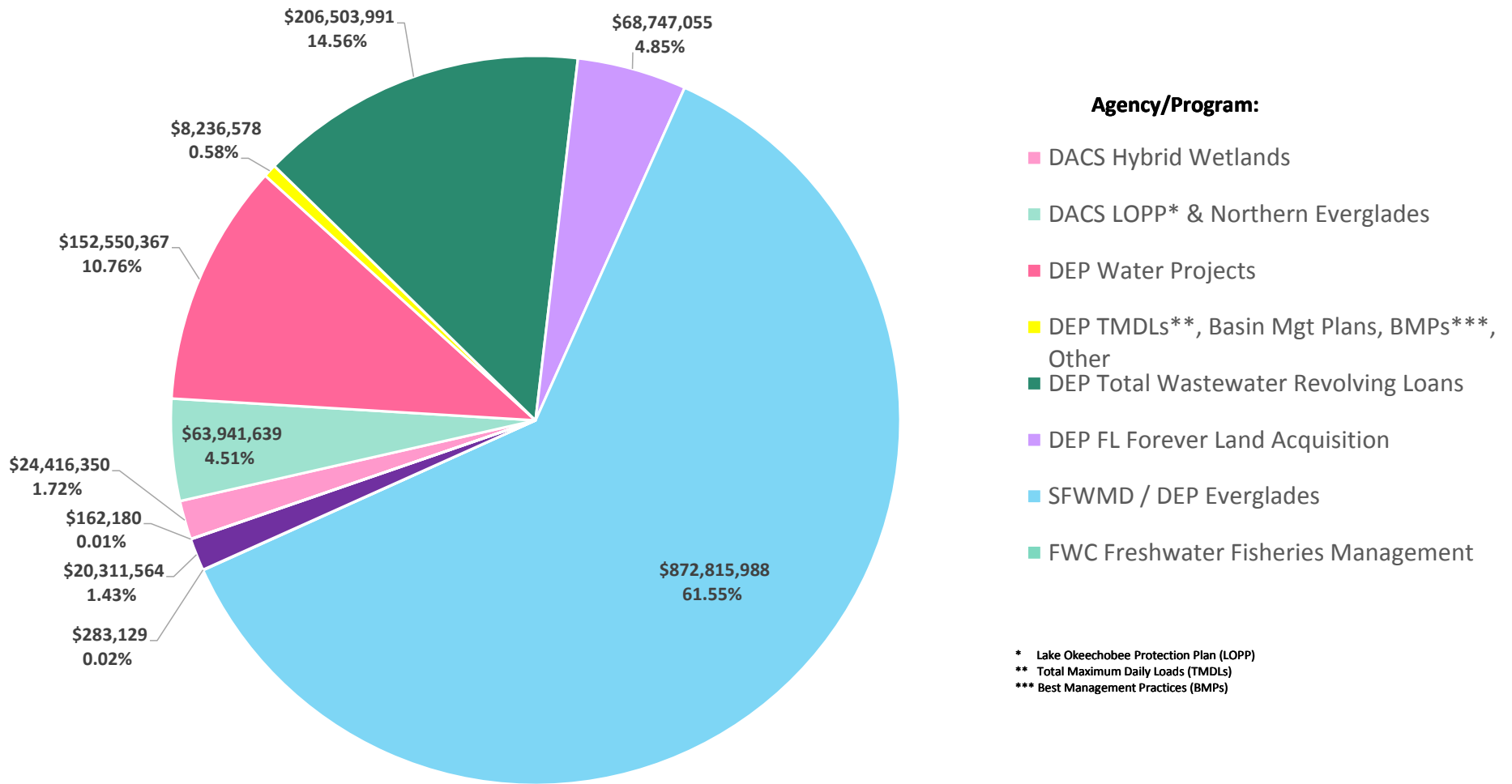
ERC	Environmental Regulation Commission
ERP	Environmental Resource Permit
ESA	Endangered Species Act
FEB	Flow Equalization Basin
FRESP	Florida Ranchlands Environmental Services Project
FY	Fiscal Year
FWC	Florida Fish & Wildlife Conservation Commission
gal	Gallons
GPD	Gallons per Day
GPM	Gallons per Minute
IFAS	Institute of Food and Agricultural Sciences
IRL	Indian River Lagoon
IRLLOB	Indian River Lagoon & Lake Okeechobee Basin
KOE	Kissimmee-Everglades-Okeechobee
KRR	Kissimmee River Restoration
LOPP	Lake Okeechobee Protection Plan
MFLs	Minimum Flows and Levels
MGDs	Millions of Gallons a Day
mg/l	Milligrams per Liter; 1 mg/L = 1 ppm
MMPA	Marine Mammal Protection Act
N	Nitrogen
NEEPP	Northern Everglades & Estuaries Protection Program
NEPA	National Environmental Policy Act
NE-PES	Northern Everglades Payment for Environmental Services Program
NNC	Numeric Nutrient Criteria
NPDES	National Pollutant Discharge Elimination System
O&M	Operation & Maintenance
OFW	Outstanding Florida Water
OPB	Office of Policy & Budget (Florida Governor's Office)
OSTDS	Onsite Sewage Treatment and Disposal system
P	Phosphorus
P2000	Preservation 2000
PEIS	Programmatic Environmental Impact Statement
PIR	Project Implementation Report
PPA	Project Partnership Agreement
PPB	Parts per Billion
PPM	Parts per Million
RO	Reverse Osmosis

ROG	River of Grass
SFWMD	South Florida Water Management District
SAV	Submerged Aquatic Vegetation
SJRWMD	St. Johns River Water Management District
SLR	St. Lucie River
SOETF	Save Our Everglades Trust Fund
SOR	Save Our Rivers (Program)
STA	Stormwater Treatment Area
SWFWMD	Southwest Florida Water Management Area
SWIM	Surface Water Improvement & Management Program
SWUCA	Southern Water Use Caution Area
TMDL	Total Maximum Daily Load
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
WCA	Water Conservation Area
WMLTF	Water Management Lands Trust Fund
WPA	Water Preserve Area
WQBEL/QBEL	Water Quality Based Effluent Limit
WRA	Water Resources Act
WRAC	SFWMD Water Resources Advisory Commission
WRDA	Water Resources Development Act

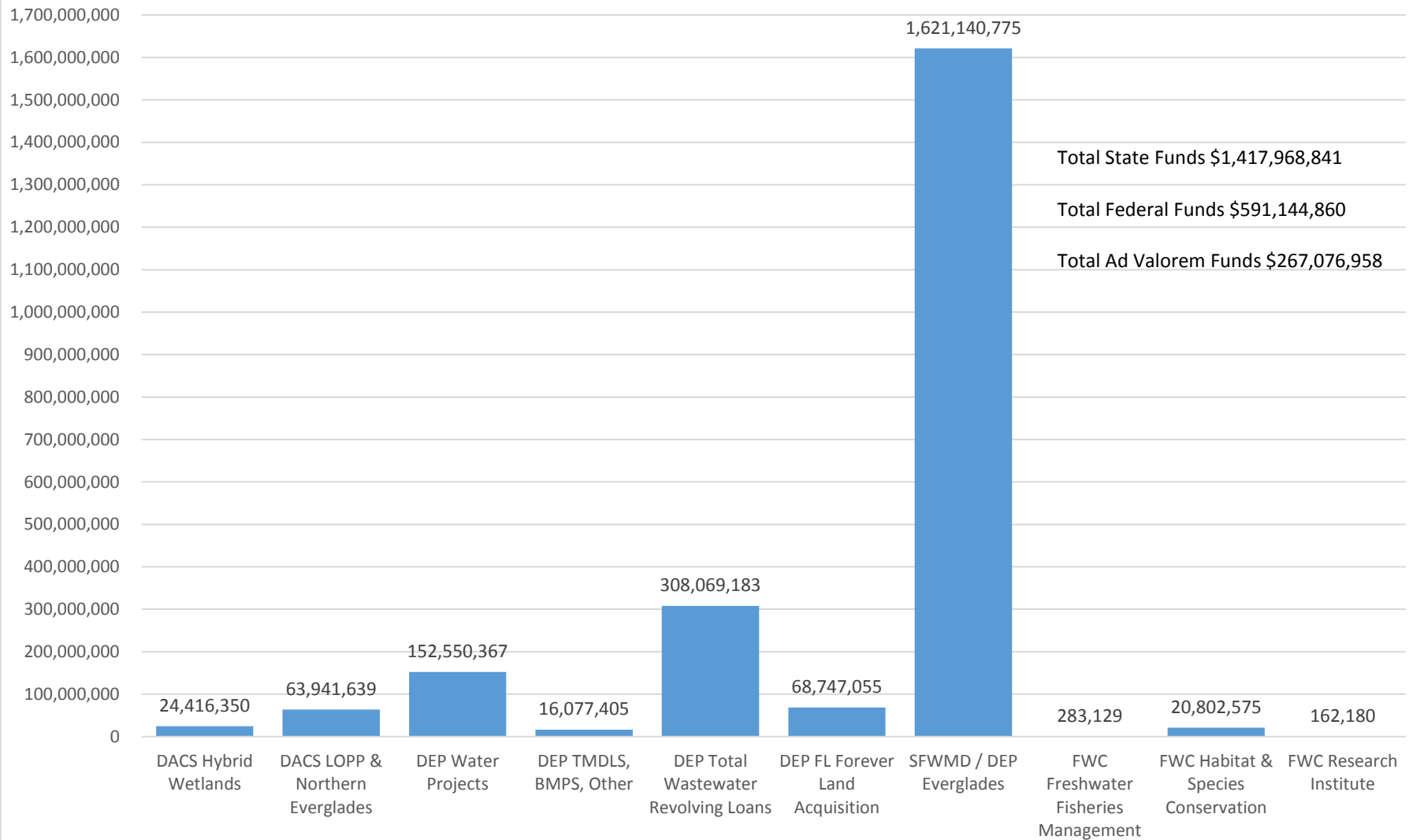
**Indian River Lagoon & Lake Okeechobee Basin Area
(Glades, Highlands, Lee, Martin, Okeechobee, & St. Lucie Counties)**

Total State Expenditures \$1,417,968,841

Fiscal Year 1999-2000 through 2013-2014



Indian River Lagoon & Lake Okeechobee Basin Area
Glades, Highlands, Lee, Martin, Okeechobee & St. Lucie Counties
Total State, Ad Valorem & Federal Expenditures* \$2,276,190,659
Fiscal Year 1999-2000 - 2013-2014 by Agency and Program



*Federal funding amounts are only included for funds that flow through the state treasury and SFWMD/CERP.

Total State Expenditures/Appropriations Compared to % Expenditures of Target Area
Fiscal Year 1999-2000 through 2013-2014
Indian River Lagoon & Lake Okeechobee Basin Area
(Glades, Highlands, Lee, Martin, Okeechobee, & St. Lucie Counties)

PROGRAM	Total State Appropriation	Total State Expenditures for Impacted Area	% of Expenditures Compared to Total State Appropriation
DACS Hybrid Wetlands	24,484,120	24,416,350	99.72%
DACS LOPP & Northern Everglades	64,738,909	63,941,639	98.77%
DEP Water Projects	971,700,000	152,550,367	15.70%
DEP Total Maximum Daily Loads, Basin Mgt Plans, BMPS, Other	80,875,993	8,236,578	10.18%
DEP Total Wastewater Revolving Loans	2,136,593,060	206,503,991	9.67%
DEP FL Forever Land Acquisition	3,053,400,000	68,747,055	2.25%
SFWMD / DEP Everglades	1,244,455,500	872,815,988	70.14%
FWC Freshwater Fisheries Management	13,969,072	283,129	2.03%
FWC Habitat & Species Conservation	781,498,328	20,311,564	2.60%
FWC Research Institute	537,904,929	162,180	0.03%
TOTAL ALL PROGRAMS	8,909,619,911	1,417,968,841	

Notes:

1) LOPP = Lake Okeechobee Protection Plan

2) FY 2013-14 reflects appropriations.

3) Federal funding amounts are only included for funds that flow through the state treasury and SFWMD/CERP.

4) FY information provided under the SFWMD/FDEP Everglades column is for the Kissimmee River Restoration and the CERP (Indian River Lagoon - South, C-43 Reservoir and Lake Okeechobee Watershed Project) only. Other SFWMD expenditures include projects such as Dispersed Water Management, phosphorus reduction projects, the District's Regulatory Source Control Program, local projects, in-lake phosphorus reduction strategies.

State, South Florida Water Management District, & Federal Expenditures/Appropriations - Fiscal Year 1999-2000 through 2013-2014
Indian River Lagoon & Lake Okeechobee Basin Area (Glades, Highlands, Lee, Martin, Okeechobee & St. Lucie Counties)

Fiscal Year	DACS Hybrid Wetlands	DACS LOPP* & Northern Everglades	DEP Water Projects*	DEP TMDLs, BMPS, Other	DEP Total Wastewater Revolving Loans*	DEP FL Forever Land Acq	SFWMD / DEP Everglades****	FWC Freshwater Fisheries Management	FWC Habitat & Species Conserv.	FWC Research Institute	TOTAL State Funds
FY 1999-2000	0		0	0	0	10,000	FY data not available; included with FY2004-2005 data.	0	477,919	0	487,919
FY 2000-2001	0	464,303	51,800,000	0	11,225,193	1,294,939	FY data not available; included with FY2004-2005 data.	0	502,868	0	65,287,303
FY 2001-2002	0	1,243,056	900,000	500,000	31,814,199	2,758,343	FY data not available; included with FY2004-2005 data.	0	499,168	0	37,714,766
FY 2002-2003	0	2,625,709	5,813,000	0	2,855,660	16,124,972	FY data not available; included with FY2004-2005 data.	0	522,725	0	27,942,066
FY 2003-2004	0	2,443,295	0	0	11,331,868	6,765,860	FY data not available; included with FY2004-2005 data.	0	385,794	0	20,926,817
FY 2004-2005	0	8,671,210	18,250,000	0	69,041,071	2,094,833	540,179,565	0	99,517	0	638,336,196
FY 2005-2006	0	13,427,985	18,956,000	946,025	8,661,201	12,941,334	187,472,950	0	473,395	68	242,878,958
FY 2006-2007	0	4,800,374	31,474,339	707,251	571,667	470,000	28,051,398	0	281,624	208	66,356,861
FY 2007-2008	2,755,867	9,130,657	15,117,028	695,827	37,443,665	1,101,535	32,752,562	0	3,511,622	36,035	102,544,798
FY 2008-2009	2,096,293	3,891,399	4,690,000	70,655	33,559,467	973,000	27,573,954	0	2,430,642	33,726	75,319,136
FY 2009-2010	2,287,550	3,898,887	0	268,431	0	24,163,388	12,379,155	0	2,546,913	15,307	45,559,631
FY 2010-2011	1,893,100	4,130,763	0	818,172	0	0	18,009,923	27,821	1,810,315	51,278	26,741,372
FY 2011-2012	4,391,920	2,967,952	1,350,000	380,855	0	48,851	5,787,274	80,855	1,210,320	18,110	16,236,137
FY 2012-2013	4,991,620	3,246,049	0	912,862	0		109,207	87,454	2,154,094	3,779	11,505,065
FY 2013-2014**	6,000,000	3,000,000	4,200,000	2,936,500	0		20,500,000	87,000	3,404,648	3,669	40,131,817
State Totals	24,416,350	63,941,639	152,550,367	8,236,578	206,503,991	68,747,055	872,815,988	283,129	20,311,563	162,180	1,417,968,841
		SFWMD Ad Valorem					267,076,958				267,076,958
		*** Federal Funds	7,840,827	101,565,192			481,247,829		491,012		591,144,860
		Total All Funds	16,077,405	308,069,183	68,747,055	1,621,140,775	283,129	20,802,575	162,180		2,276,190,659

Notes:

* LOPP = Lake Okeechobee Protection Plan

** FY 2013-14 reflects appropriations.

*** Federal funding amounts are only included for funds that flow through the state treasury and SFWMD/CERP.

**** SFWMD/DEP Everglades- total expenditures reflect Kissimmee River Restoration & Comprehensive Everglades Restoration Program (CERP) expenditures.

Total State, South Florida Water Management District & Federal Expenditures/Appropriations
Fiscal Year 1999-2000 through 2013-2014
Indian River Lagoon & Lake Okeechobee Basin Area
(Glades, Highlands, Lee, Martin, Okeechobee, & St. Lucie Counties)

PROGRAM	STATE FUNDS	SFWMD AD VALORUM	FEDERAL FUNDS ***	TOTAL
DACS Hybrid Wetlands	24,416,350			24,416,350
DACS LOPP & Northern Everglades	63,941,639			63,941,639
DEP Water Projects	152,550,367			152,550,367
DEP Total Maximum Daily Loads, Basin Mgt Plans, BMPS, Other	8,236,578		7,840,827	16,077,405
DEP Total Wastewater Revolving Loans	206,503,991		101,565,192	308,069,183
DEP FL Forever Land Acquisition	68,747,055			68,747,055
SFWMD / DEP Everglades	872,815,988	267,076,958	481,247,829	1,621,140,775
FWC Freshwater Fisheries Management	283,129			283,129
FWC Habitat & Species Conservation	20,311,563		491,012	20,802,575
FWC Research Institute	162,180			162,180
TOTALS	1,417,968,841	267,076,958	591,144,860	2,276,190,659

Notes:

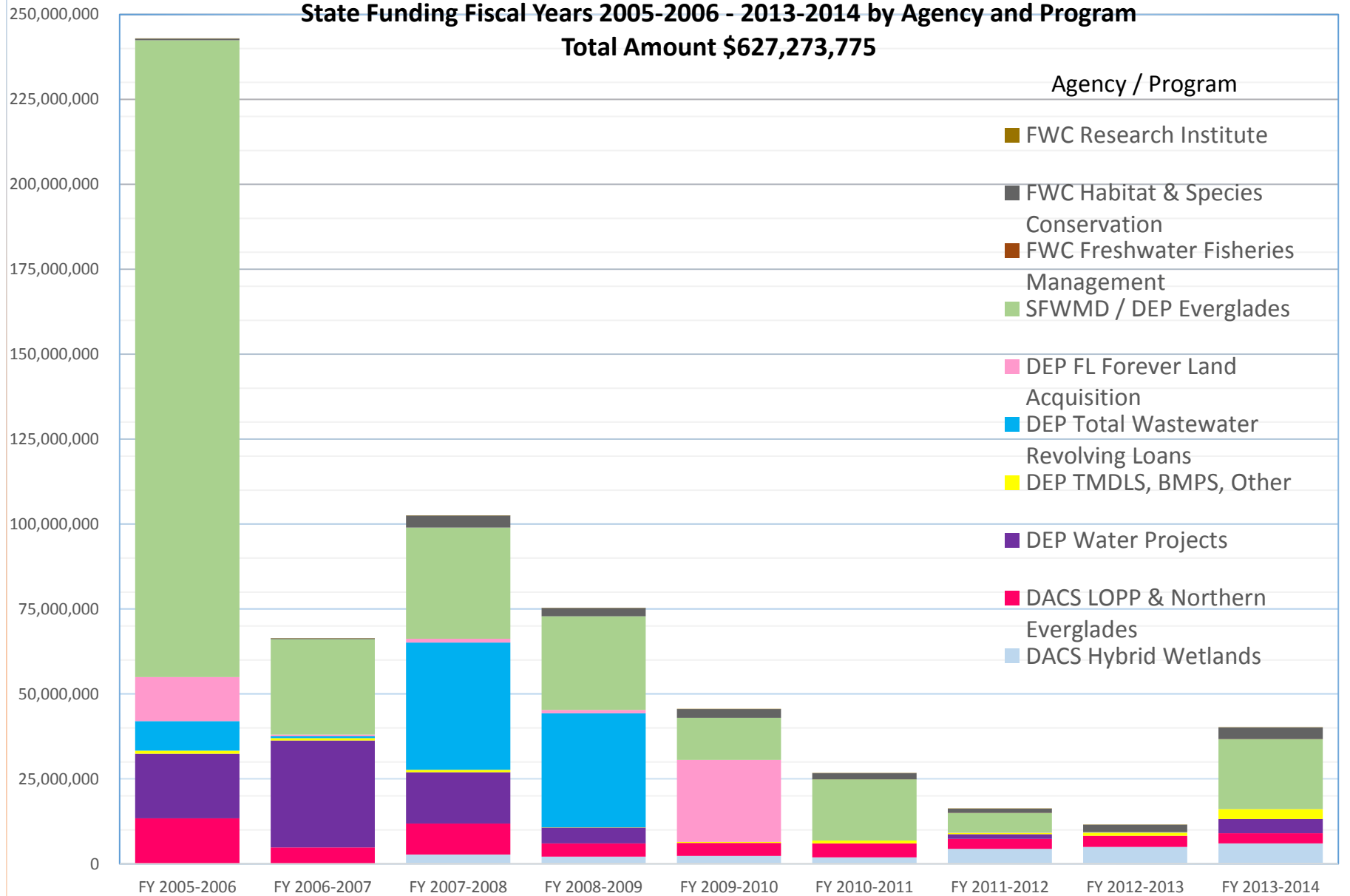
* LOPP = Lake Okeechobee Protection Plan

** FY 2013-14 reflects appropriations.

*** Federal funding amounts are only included for funds that flow through the state treasury and SFWMD/CERP.

**** FY funding provided for the SFWMD/FDEP Everglades column is for the Kissimmee River Restoration and the CERP (Indian River Lagoon - South, C-43 Reservoir and Lake Okeechobee Watershed Project) only. Other SFWMD expenditures include projects such as Dispersed Water Management, phosphorus reduction projects, the District's Regulatory Source Control Program, local projects, in-lake phosphorus reduction strategies.

Indian River Lagoon & Lake Okeechobee Basin Area
 Glades, Highlands, Lee, Martin, Okeechobee & St. Lucie Counties
State Funding Fiscal Years 2005-2006 - 2013-2014 by Agency and Program
Total Amount \$627,273,775



IRLLOB - State & Federal Expenditures/Appropriations
Fiscal Year 1999-2000 through 2013-2014
Statewide Appropriations and Expenditures related to Impacted Counties (Glades, Highlands, Lee, Martin Okeechobee, & St. Lucie)

WATER PROJECT FUNDING

WATER PROJECTS - Statewide Appropriations

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
11,100,000		11,100,000	143,600,000		143,600,000	70,300,000		70,300,000	107,100,000		107,100,000	0		0	109,400,000		109,400,000	110,200,000		110,200,000	188,100,000		188,100,000
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
119,000,000		119,000,000	66,200,000		66,200,000	0		0	800,000		800,000	1,300,000		1,300,000	6,900,000		6,900,000	37,700,000		37,700,000	971,700,000	0	971,700,000

WATER PROJECTS - Expenditures for Specific Counties

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0		0	51,800,000		51,800,000	900,000		900,000	5,813,000		5,813,000	0		0	18,250,000		18,250,000	18,956,000		18,956,000	31,474,339		31,474,339
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
15,117,028		15,117,028	4,690,000		4,690,000	0		0	0		0	1,350,000		1,350,000	0		0	4,200,000		4,200,000	152,550,367	0	152,550,367

WATER PROJECTS - % Expenditures to Appropriation

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0.00%		0	36.07%		0	1.28%		0	5.43%		0			0	16.68%		0	17.20%		0	16.73%		0
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
12.70%		0	7.08%		0			0	0.00%		0	103.85%		1	0.00%		0	11.14%		0	15.70%		15.70%

EVERGLADES FUNDING

EVERGLADES - Statewide Appropriations

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
		0	105,000,000	0	105,000,000	125,000,000	0	125,000,000	125,000,000	0	125,000,000	100,000,000	0	100,000,000	75,000,000		75,000,000	100,000,000	0	100,000,000	135,000,000	0	135,000,000
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
200,000,000	0	200,000,000	50,000,000		50,000,000	50,000,000	0	50,000,000	50,000,000	0	50,000,000	29,455,500	0	29,455,500	30,000,000	0	30,000,000	70,000,000	0	70,000,000	1,244,455,500	0	1,244,455,500

Includes \$32m for Restoration Strategies

EVERGLADES - Expenditures for Specific Counties

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
		0			0			0			0			0	540,179,565		540,179,565	187,472,950		187,472,950	28,051,398		28,051,398
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
32,752,562		32,752,562	27,573,954		27,573,954	12,379,155		12,379,155	18,009,923		18,009,923	5,787,274		5,787,274	109,207		109,207	20,500,000		20,500,000	872,815,988	0	872,815,988

EVERGLADES - % Expenditures to Appropriation

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
		0.00%			0.00%			0.00%			0.00%			0.00%	720.24%		720.24%	187.47%		187.47%	20.78%		20.78%
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
16.38%		16.38%	55.15%		55.15%	24.76%		24.76%	36.02%		36.02%	19.65%		19.65%	0.36%		0.36%	29.29%		29.29%	70.14%		70.14%

FLORIDA FOREVER FUNDING

FLORIDA FOREVER - Statewide Appropriation

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
		0	300,000,000	0	300,000,000	300,000,000	0	300,000,000	300,000,000	0	300,000,000	300,000,000	0	300,000,000	300,000,000	0	300,000,000	300,000,000	0	300,000,000	610,000,000	0	610,000,000
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
300,000,000	0	300,000,000	300,000,000	0	300,000,000			0	15,000,000	0	15,000,000			0	8,400,000	0	8,400,000	20,000,000	0	20,000,000	3,053,400,000	0	3,053,400,000

FLORIDA FOREVER - Expenditures for Specific Counties

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
10,000		10,000	1,294,939		1,294,939	2,758,343		2,758,343	16,124,972		16,124,972	6,765,860		6,765,860	2,094,833		2,094,833	12,941,334		12,941,334	470,000		470,000
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
1,101,535		1,101,535	973,000		973,000	24,163,388		24,163,388	0		0	48,851		48,851	0		0	0		0	68,747,055	0	68,747,055

FLORIDA FOREVER - % Expenditures to Appropriation

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
		0.00%	0.43%		0.43%	0.92%		0.92%	5.37%		5.37%	2.26%		2.26%	0.70%		0.70%	4.31%		4.31%	0.08%		0.08%
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0.37%		0.37%	0.32%		0.32%			0.00%	0.00%		0.00%			0.00%	0.00%		0.00%	0.00%		0.00%	2.25%		2.25%

TOTAL MAXIMUM DAILY LOAD FUNDING

TOTAL MAXIMUM DAILY LOADS (TMDLs) - Statewide Appropriation

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
		0			0	500,000		500,000			0			0			0	946,025		946,025	20,000,000		20,000,000
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
21,429,490	0	21,429,490	7,148,228	0	7,148,228	1,000,000	0	1,000,000	6,250,000	0	6,250,000	6,385,000	0	6,385,000	7,832,250	0	7,832,250	9,385,000	0	9,385,000	80,875,993	0	80,875,993

TOTAL MAXIMUM DAILY LOADS (TMDLs) - Expenditures for Specific Counties

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0		0	0	270,383	270,383	500,000		500,000	936,262		936,262	0	1,063,979	1,063,979	0	212,214	212,214	946,025	496,501	1,442,526	707,251	492,091	1,199,342
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
695,827	1,434,499	2,130,326	70,655	306,173	376,828	268,431	711,498	979,929	818,172	570,918	1,389,090	380,855	378,609	759,464	912,862		912,862	2,936,500	967,700	3,904,200	8,236,578	7,840,827	16,077,405

TOTAL MAXIMUM DAILY LOADS (TMDLs) - % Expenditures to Appropriation

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
		0.00%			0.00%	100.00%		100.00%			0.00%			0.00%			0.00%	100.00%		100.00%	3.54%		3.54%
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
3.25%		3.25%	0.99%		0.99%	26.84%		26.84%	13.09%		13.09%	5.96%		5.96%	11.66%		11.66%	31.29%		31.29%	10.18%		10.18%

WASTEWATER REVOLVING LOAN FUNDING**WASTEWATER REVOLVING LOANS - Statewide Funding**

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
68,132,039	45,303,291	113,435,330	76,193,034	44,900,658	121,093,692	159,055,300	45,000,648	204,055,948	168,674,871	44,708,103	213,382,974	107,144,563	44,735,130	151,879,693	143,505,265	37,948,339	181,453,604	89,180,119	29,559,024	118,739,143	109,197,437	38,984,298	148,181,735
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
102,421,779	22,969,782	125,391,561	350,435,000	25,950,193	376,385,193	112,125,520	132,386,000	244,511,520	353,976,330	68,776,000	422,752,330	115,389,258	49,845,000	165,234,258	171,834,905	47,707,000	219,541,905	9,327,640	47,707,000	57,034,640	2,136,593,060	726,480,466	2,863,073,526

*** Federal and state amounts are adjusted each year based on federal capitalization grant commitments.

WASTEWATER REVOLVING LOANS - Funding for Specific Counties

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0	7,470,822	7,470,822	11,225,193	14,580,965	31,814,199	31,814,199	74,574,307	106,388,506	2,855,660	0	2,855,660	11,331,868	0	11,331,868	69,041,071	0	69,041,071	8,661,201	0	8,661,201	571,667	0	571,667
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
37,443,665	0	37,443,665	33,559,467	2,109,212	35,668,679	0	2,829,886	2,829,886	0	0	0	0	0	0	0	0	0	0	0	0	206,503,991	101,565,192	308,069,183

*** Federal and state amounts depend on which loans are identified to meet federal capitalization grant commitments.

WASTEWATER REVOLVING LOANS - % Specific County Funding Relative to Total Funding

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0.00%	16.49%	6.59%	14.73%	32.47%	26.27%	20.00%	165.72%	52.14%	1.69%	0.00%	1.34%	10.58%	0.00%	7.46%	48.11%	0.00%	38.05%	9.71%	0.00%	7.29%	0.52%	0.00%	0.39%
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
36.56%	0.00%	29.86%	9.58%	8.13%	9.48%	0.00%	2.14%	1.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	9.67%	13.98%	10.76%

*** Federal and state amounts depend on which loans are identified to meet federal capitalization grant commitments; because the program operates cumulatively rather than annually, annual percentages may exceed 100%.

FISH AND WILDLIFE HABITAT & SPECIES / RESEARCH FUNDING

Freshwater Fisheries Management - Statewide Appropriation

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0	0	0	0	0	0	0	0	0	3,497,134	4,768,379	8,265,513	2,977,363	5,294,913	8,272,276	3,364,013	5,188,267	8,552,280	4,130,562	5,232,356	9,362,918	13,969,072	20,483,915	34,452,987

Freshwater Fisheries Management - Expenditures for Specific Counties

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0	0	0	0	0	0	0	0	0	27,821	0	27,821	80,855	0	80,855	87,454	0	87,454	87,000	0	87,000	283,130	0	283,130

Freshwater Fisheries Management - % Expenditures to Appropriation (Lake Restoration)

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
		0.00%			0.00%			0.00%			0.00%			0.00%			0.00%			0.00%			0.00%
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
		0.00%			0.00%			0.00%	0.80%	0.00%	0.80%	2.72%	0.00%	2.72%	2.60%	0.00%	2.60%	2.11%	0.00%	2.11%	2.03%	0.00%	2.03%

Habitat & Species Conservation - Statewide Appropriation

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
9,843,299	767,550	10,610,849	11,767,666	1,119,900	12,887,566	16,884,255	2,420,675	19,304,930	43,808,372	3,887,762	47,696,134	35,989,391	2,904,403	38,893,794	8,077,685	44,085,050	52,162,735	55,183,721	9,941,984	65,125,705	69,741,157	10,067,365	79,808,522
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
72,534,464	12,406,273	84,940,737	111,645,077	14,822,865	126,467,942	66,500,344	25,354,230	91,854,574	73,023,092	17,488,678	90,511,770	63,217,542	21,627,182	84,844,724	66,764,760	20,499,688	87,264,448	76,517,503	20,548,713	97,066,216	781,498,328	207,942,318	989,440,646

Habitat & Species Conservation - Expenditures for Specific Counties

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
477,919	0	477,919	502,868	0	502,868	499,168	0	499,168	522,725	0	522,725	385,794	0	385,794	99,517	0	99,517	473,395	0	473,395	281,624	0	281,624
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
3,511,622	0	3,511,622	2,430,642	0	2,430,642	2,546,913	97,631	2,644,544	1,810,315	98,332	1,908,647	1,210,320	135,002	1,345,322	2,154,094	160,047	2,314,141	3,404,648	0	3,404,648	20,311,564	491,012	20,802,576

Habitat & Species Conservation - % Expenditures to Appropriation (Lake Restoration)

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
4.86%	0.00%	4.86%	4.27%	0.00%	4.27%	2.96%	0.00%	2.96%	1.19%	0.00%	1.19%	1.07%	0.00%	1.07%	1.23%	0.00%	1.23%	0.86%	0.00%	0.86%	0.40%	0.00%	0.40%
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
4.84%	0.00%	4.84%	2.18%	0.00%	2.18%	3.83%	0.39%	4.21%	2.48%	0.56%	3.04%	1.91%	0.62%	2.54%	3.23%	0.78%	4.01%	4.45%	0.00%	4.45%	2.60%	0.24%	2.84%

Fish & Wildlife Research Institute - Statewide Appropriation

FY 99/00				FY 00/01				FY 01/02				FY 02/03				FY 03/04				FY 04/05				FY 05/06				FY 06/07			
State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total	
30,955,028	0	30,955,028		32,438,068	0	32,438,068		33,256,474	0	33,256,474		32,173,213	0	32,173,213		30,668,754	0	30,668,754		35,242,358	0	35,242,358		42,131,352	0	42,131,352		46,849,276	7,736,188	54,585,464	
FY 07/08				FY 08/09				FY 09/10				FY 10/11				FY 11/12				FY 12/13				FY 13/14				ALL Years			
State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total	
41,388,550	9,607,261	50,995,811		41,989,883	8,625,821	50,615,704		36,715,637	10,732,575	47,448,212		36,060,174	13,571,135	49,631,309		31,369,786	17,914,567	49,284,353		31,379,554	17,817,176	49,196,730		35,286,822	16,137,058	51,423,880		537,904,929	102,141,781	640,046,710	

Fish & Wildlife Research Institute - Expenditures for Specific Counties

FY 99/00				FY 00/01				FY 01/02				FY 02/03				FY 03/04				FY 04/05				FY 05/06				FY 06/07			
State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total	
0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		68	0	68		208	0	208	
FY 07/08				FY 08/09				FY 09/10				FY 10/11				FY 11/12				FY 12/13				FY 13/14				ALL Years			
State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total	
36,035	0	36,035		33,726	0	33,726		15,307	0	15,307		51,278	0	51,278		18,110	0	18,110		3,779	0	3,779		3,669	0	3,669		162,180	0	162,180	

Fish & Wildlife Research Institute - % Expenditures to Appropriation (Lake Restoration)

FY 99/00				FY 00/01				FY 01/02				FY 02/03				FY 03/04				FY 04/05				FY 05/06				FY 06/07			
State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total	
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
FY 07/08				FY 08/09				FY 09/10				FY 10/11				FY 11/12				FY 12/13				FY 13/14				ALL Years			
State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total		State	Federal	Total	
0.09%	0.00%	0.09%		0.08%	0.00%	0.08%		0.04%	0.00%	0.04%		0.14%	0.00%	0.14%		0.06%	0.00%	0.06%		0.01%	0.00%	0.01%		0.01%	0.00%	0.01%		0.03%	0.00%	0.03%	

AGRICULTURE LAKE OKEECHOBEE & BMPs' FUNDING**BMPS - Lake O and Northern Everglades -Statewide Appropriation**

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0	0	0	2,411,521	0	2,411,521	0	0	0	5,000,000	0	5,000,000	4,600,000	0	4,600,000	7,988,479	0	7,988,479	8,875,558	0	8,875,558	4,800,374	0	4,800,374
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
9,130,657	0	9,130,657	3,891,399	0	3,891,399	4,528,213	0	4,528,213	4,501,287	0	4,501,287	3,005,310	0	3,005,310	3,006,111	0	3,006,111	3,000,000	0	3,000,000	64,738,909	0	64,738,909

BMPS - Lake O and Northern Everglades - Expenditures for Specific Counties

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0	0	0	464,303	0	464,303	1,243,056	0	1,243,056	2,625,709	0	2,625,709	2,443,295	0	2,443,295	8,671,210	0	8,671,210	13,427,985	0	13,427,985	4,800,374	0	4,800,374
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
9,130,657	0	9,130,657	3,891,399	0	3,891,399	3,898,887	0	3,898,887	4,130,763	0	4,130,763	2,967,952	0	2,967,952	3,246,049	0	3,246,049	3,000,000	0	3,000,000	63,941,639	0	63,941,639

BMPS - Lake O and Northern Everglades - % Expenditures to Appropriation (BMPS)

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0.00%			19.25%		19.25%	0.00%			52.51%		52.51%	53.12%		53.12%	108.55%		108.55%	151.29%		151.29%	100.00%		100.00%
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
100.00%		100.00%	100.00%		100.00%	86.10%		86.10%	91.77%		91.77%	98.76%		98.76%	107.98%		107.98%	100.00%		100.00%	98.77%		98.77%

BMPS - Hybrid Wetlands - Statewide Appropriation

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
0	0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
3,000,000	0	3,000,000	2,600,000	0	2,600,000	1,900,000	0	1,900,000	2,984,120	0	2,984,120	3,000,000	0	3,000,000	5,000,000	0	5,000,000	6,000,000	0	6,000,000	24,484,120	0	24,484,120

BMPS - Hybrid Wetlands - Expenditures for Specific Counties

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
		0			0			0			0			0			0			0			0
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
2,755,867	0	2,755,867	2,096,293	0	2,096,293	2,287,550	0	2,287,550	1,893,100	0	1,893,100	4,391,920	0	4,391,920	4,991,620	0	4,991,620	6,000,000	0	6,000,000	24,416,350	0	24,416,350

BMPS - Hybrid Wetlands - % Expenditures to Appropriation (BMPS)

FY 99/00			FY 00/01			FY 01/02			FY 02/03			FY 03/04			FY 04/05			FY 05/06			FY 06/07		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
		0.00%			0.00%			0.00%			0.00%			0.00%			0.00%			0.00%			0.00%
FY 07/08			FY 08/09			FY 09/10			FY 10/11			FY 11/12			FY 12/13			FY 13/14			ALL Years		
State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total	State	Federal	Total
91.86%		91.86%	80.63%		80.63%	120.40%		120.40%	63.44%		63.44%	146.40%		146.40%	99.83%		99.83%	100.00%		100.00%	99.72%		99.72%

STATE
TOTAL APPROPRIATION 8,909,619,911
TOTAL EXPENDITURES 1,417,968,842

Water Quality Issues: St. Lucie Estuary (SLE) and the Indian River Lagoon (IRL)

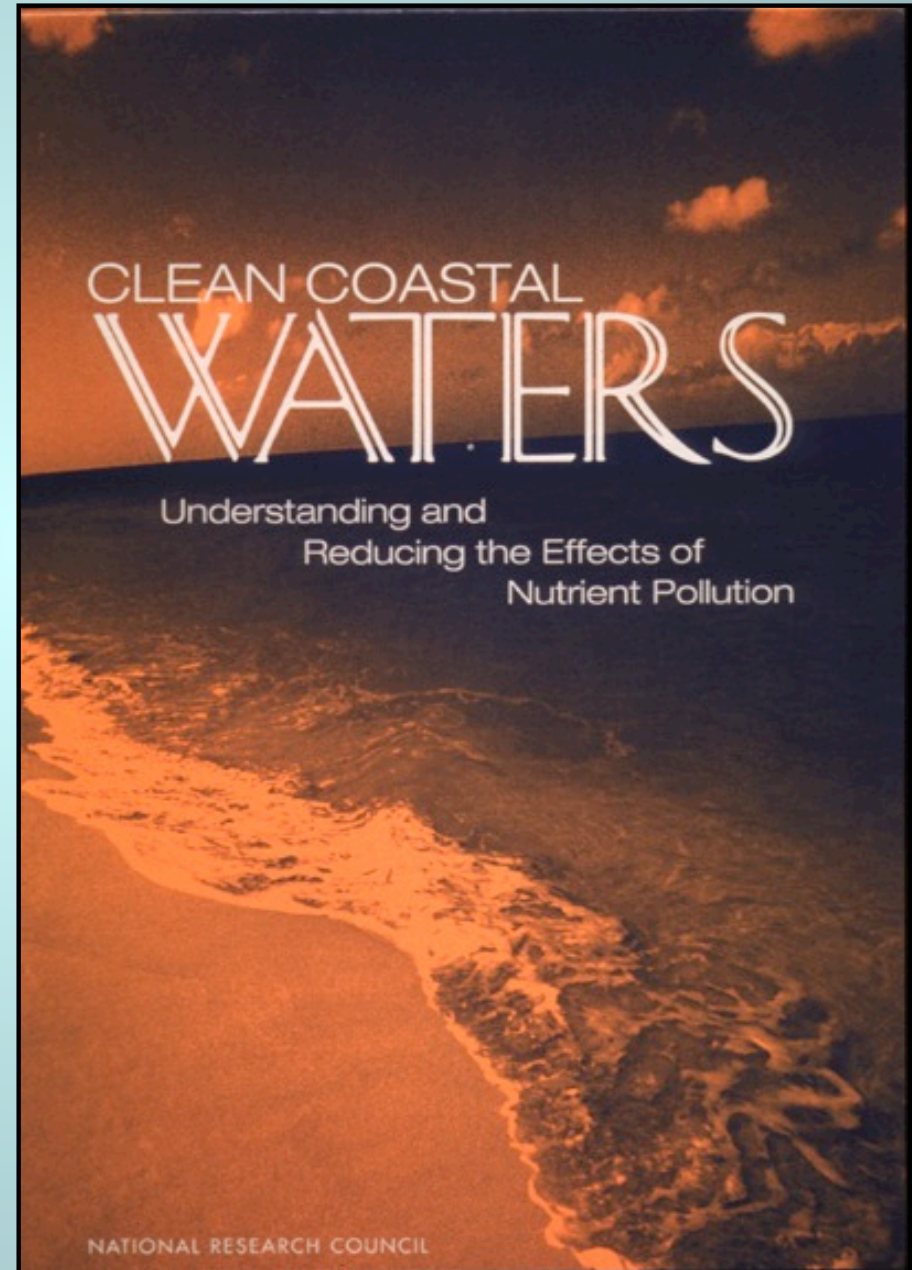
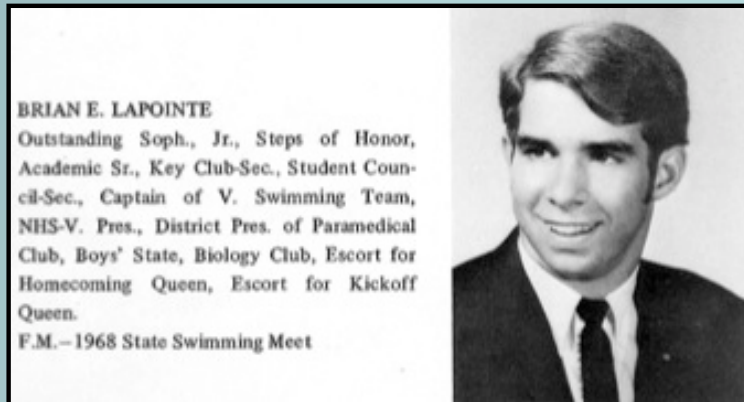


Brian E. Lapointe
Marine Ecosystem Health Program

HARBOR BRANCH

FLORIDA ATLANTIC UNIVERSITY

40 Years Experience With Nutrient Pollution and Harmful Algal Blooms



Critical Issues Facing the SLE and IRL

- Excessive freshwater releases
- Nutrient and contaminant pollution
- Loss of seagrass habitat
- Decline of fisheries
- Emerging diseases and mortalities in wildlife (manatees, dolphins, sea turtles, pelicans, fish)



Lake Okeechobee: The Hub of the Wheel



U.S. Fish & Wildlife Service

Arthur R. Marshall

Loxahatchee National Wildlife Refuge



Palm Beach Post
Wednesday, Dec. 11, 1968—27

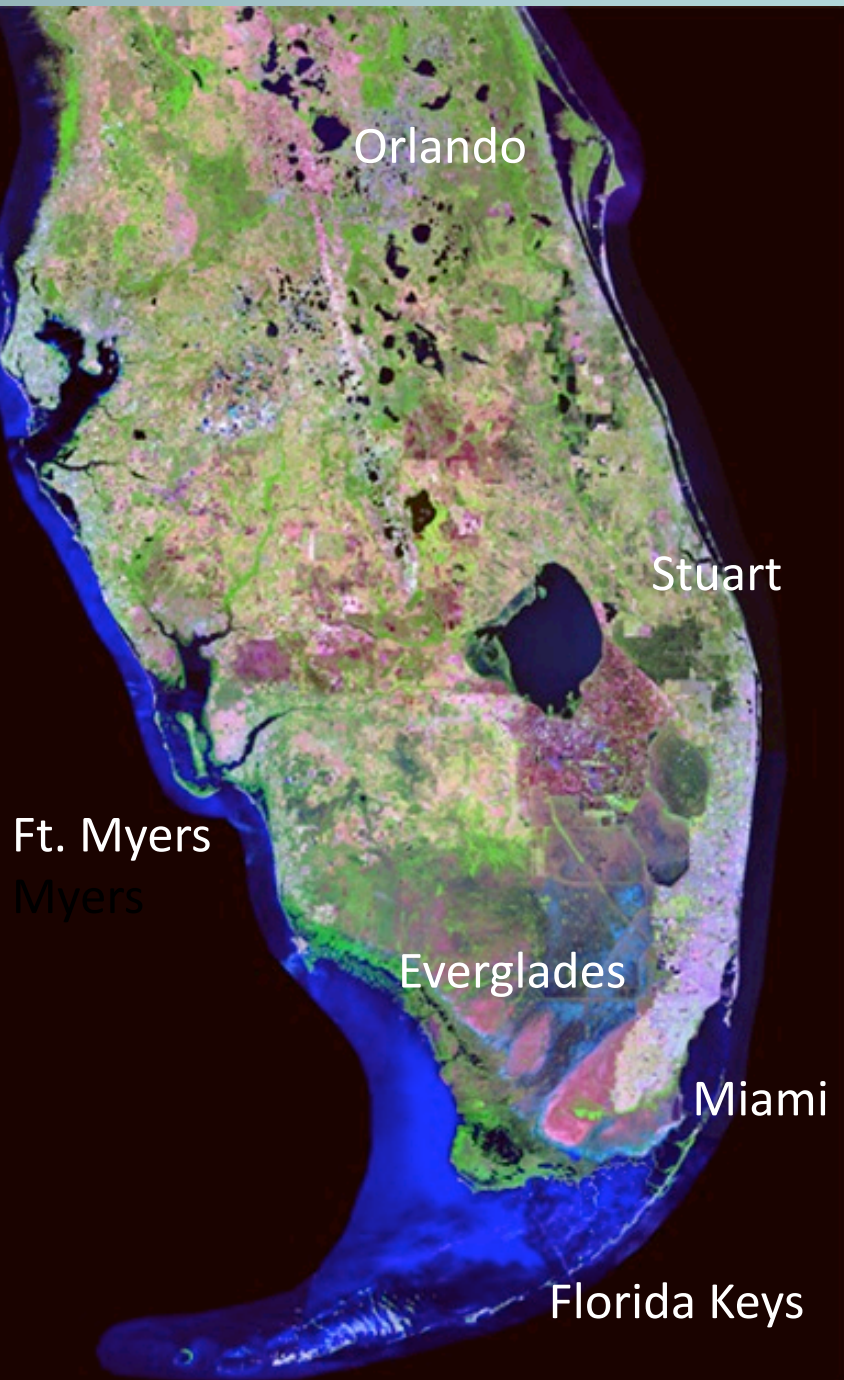


OUTDOORS

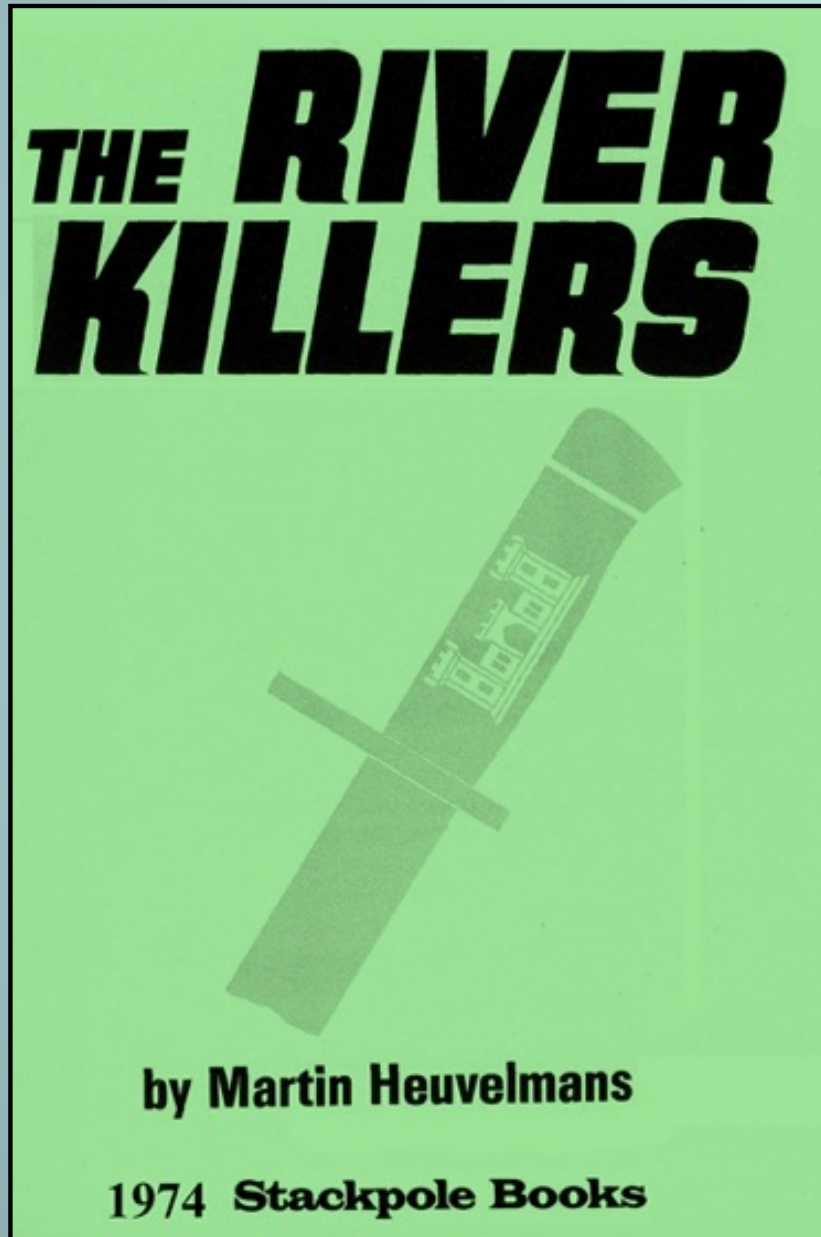
By Ed Buckow

*Biologist Sees
Restored Lake*

“Water quality is a far graver problem in the long run than is water quantity”



Impacts of Freshwater Discharges on the SLE Have Been Known for Decades



“Nowhere, as in Florida, have the operations of the Corps had a more devastating impact on so fragile an environment, and nowhere have a people been left with so perilous a future because of these operations”

Jupiter Creek Septic Tank Study: 1994-1995



- Loxahatchee River District
- Monitored wells and surface waters
- Continuous discharges of STE into Jupiter Creek
- Wells violated State Standards for groundwaters (fecal coliform)
- Nutrient and fecal coliform contamination > 100' from septic tank
- High $\delta^{15}\text{N}$ in groundwaters and surface waters and coprostanol in sediments confirmed human sewage



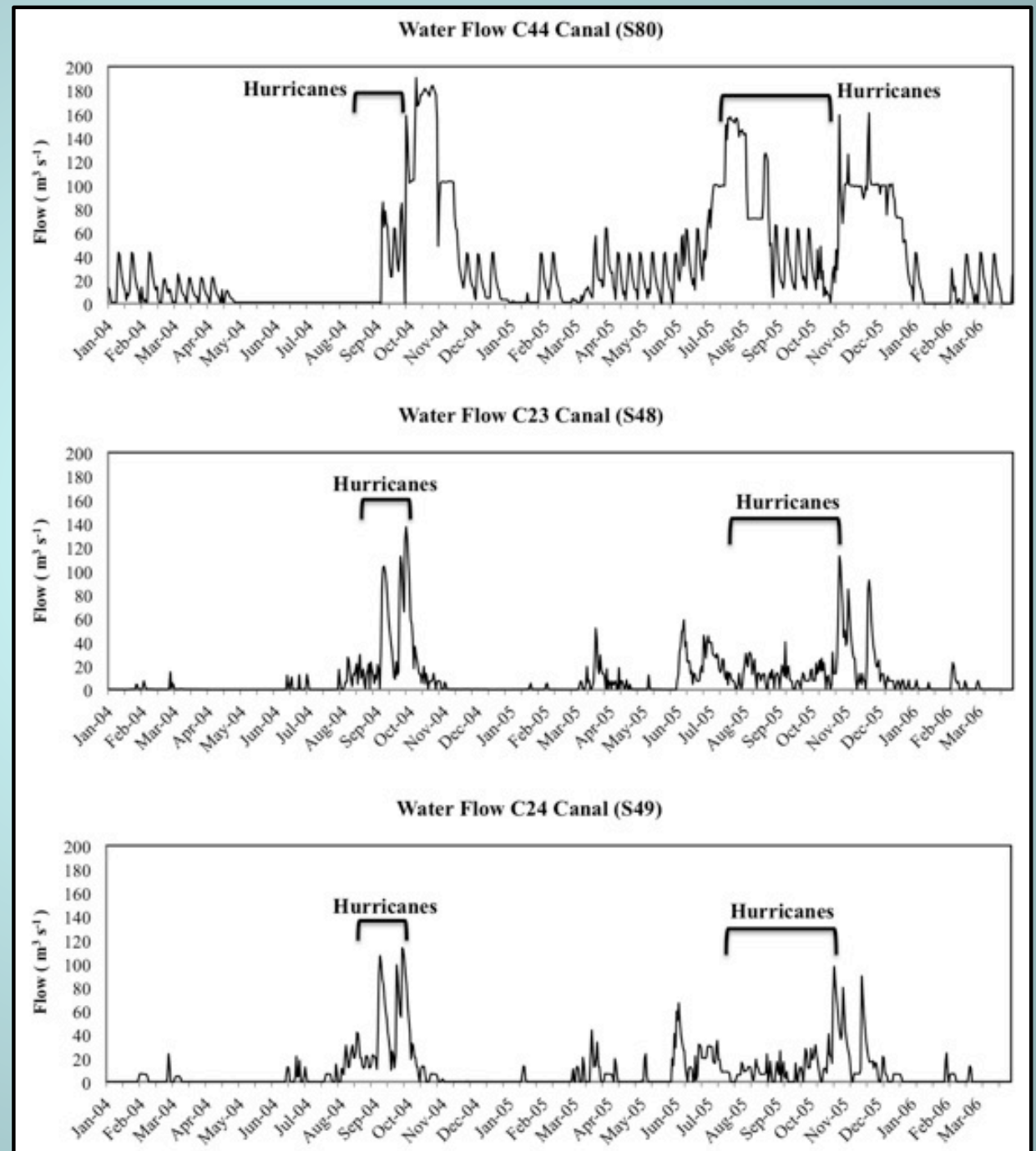
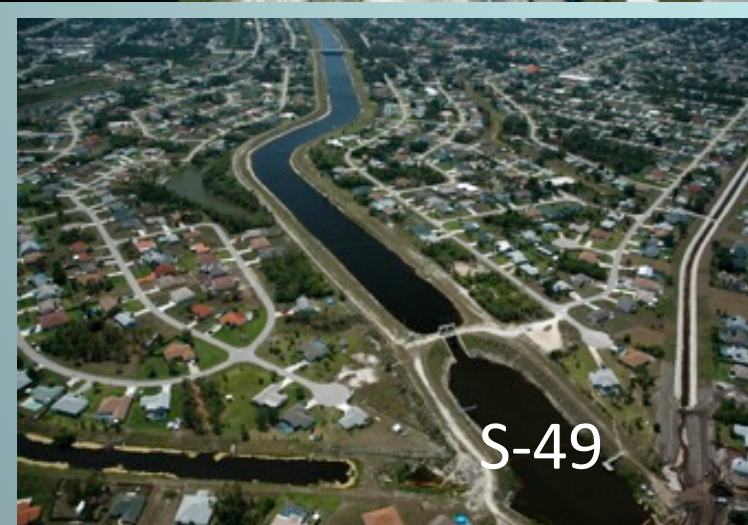
St. Lucie Estuary Septic Tank Study: 2005-2006



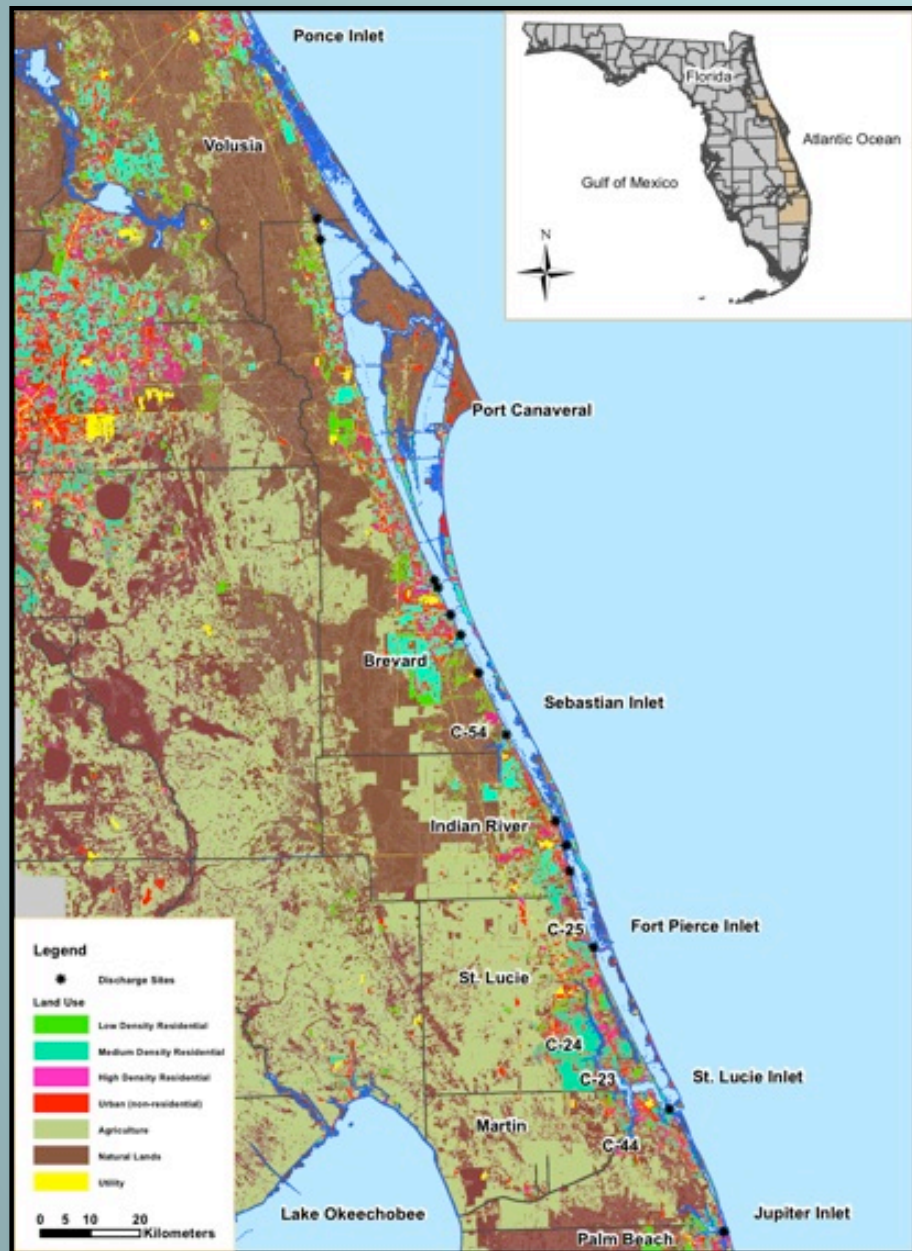
- Martin County, City of Stuart
- 25 monitoring sites in SLE
- Sampled in June & November 2005, March 2006
- Low salinities (< 1 psu) in 2005 correlated with the high nutrients, turbidity, coliforms, and low DO
- Highest turbidity, nitrate, and TN in South Fork (C-44); highest ammonium and phosphate in North Fork (C-23, C-24)
- High coliforms near dense residential areas



Hurricanes & Stormwater Runoff



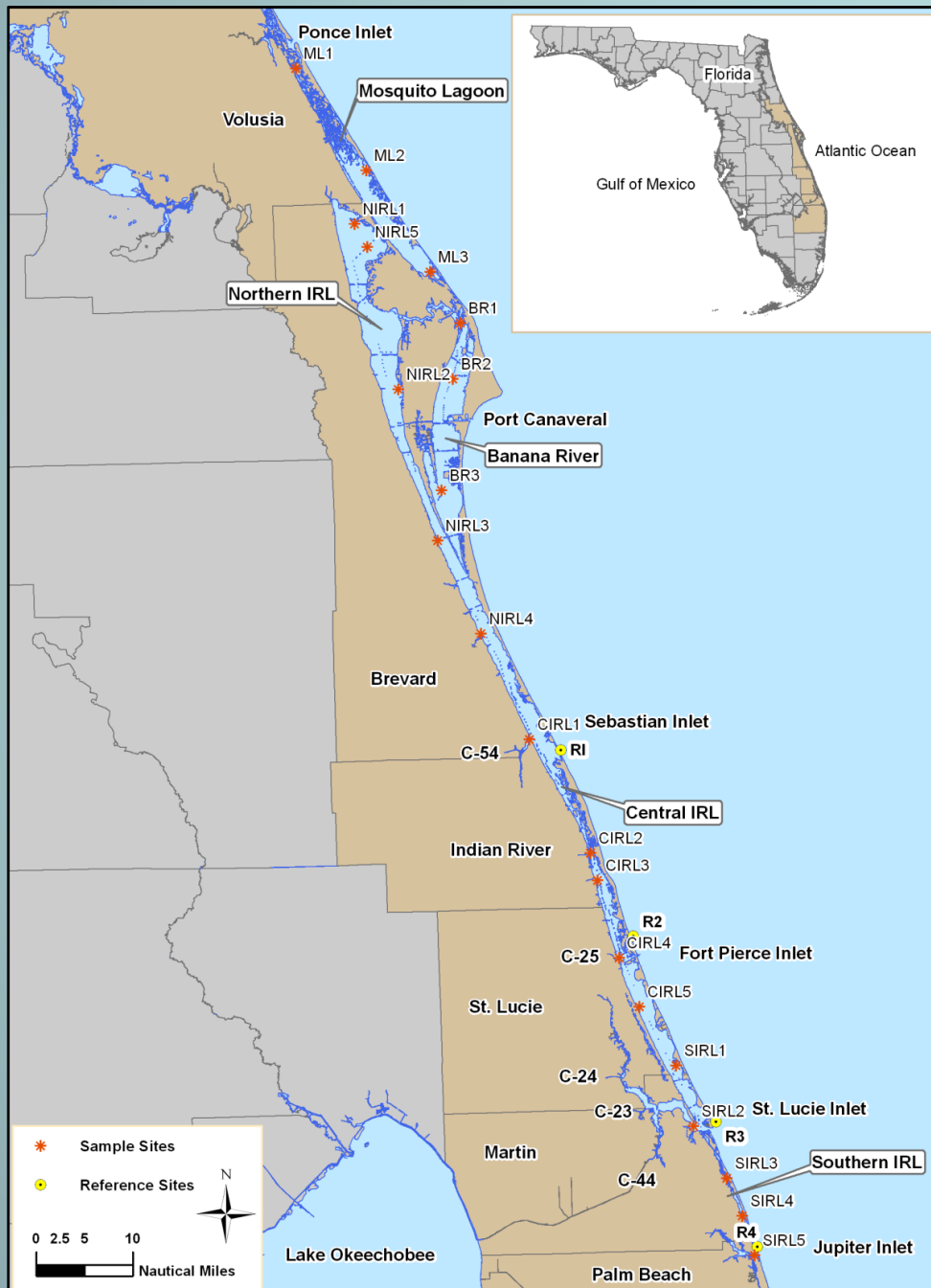
Land-Use Change and Eutrophication in the IRL



- Land-Use
 - urban 39%
 - agriculture 24%
 - forest 4.5%
 - wetland 12.1%
 - range 20.8%
- Eutrophic Condition
 - Moderate to high nitrogen input
 - High susceptibility (low flushing)
 - Substantial expression of eutrophy
 - Macroalgal blooms
 - Nutrient symptoms likely to worsen

From: Bricker et al. 2007 National Estuarine Eutrophication Assessment, NOAA, Silver Springs, MD

IRL-Wide Nutrient Study: 2011-2012



- 20 monitoring sites in IRL
- Sampled June 2011, October 2011, and November 2012
- “Super Bloom” in BR and brown-tide in ML
- Nitrogen exceeded IRL target in CIRL, NIRL, BR, and ML
- N:P ratio > 30:1 in NIRL, BR, and ML
- Enriched $\delta^{15}\text{N}$ values in macroalgae (+ 6.3 o/oo) match sewage N source values

IRL Manatee Mortalities: Is a Toxin Involved ?



- *Gracilaria* extracts from May collection assayed for bioactivity (N2A, mouse neuronal cells; MCF-7, mammary gland epithelia tissue; Collaboration with NOAA)
- Methanol extracts and HPLC showed three bands of activity; two bands glycosidic
- NMR confirmed toxic glycosides
- Also looking at *Gracilaria* epiphytes and phytoplankton as potential toxin sources



A Network of Advanced Observing Stations

Land/Ocean Biogeochemical Observatories (LOBOs)



Nortek Aquadopp

WETlabs Cycle-PO₄

Satlantic SUNA

WETlabs WQMX

Campbell Scientific Meteorological Station



Latest

Weather LOBO Site 1 Link Port
2013-08-11 12:00:00 EST

Air Temperature	28.7 °C 83.7 °F
Barometric Pressure	1021.0 mbar 30.2 inHg
Humidity	70.2 %
Rain	0.0 mm/h 0.0 in/h
PAR (Light)	1813.0 $\mu\text{mol}/\text{m}^2/\text{s}$
Wind Direction	88.8 ° E
Wind Gust	5.1 m/s 11.5 mph
Wind Speed	3.7 m/s 8.3 mph

LOBO Site 1 Link Port
2013-08-11 12:00:00 EST

Temperature	30.93 °C 87.67 °F
Salinity	27.39 PSU
Dissolved Oxygen	6.40 mg/l
O ₂ % Saturation	100.18 %
Turbidity	4.88 NTU
CDOM (Water Color)	54.85 QSDC
Chlorophyll a	6.91 $\mu\text{g}/\text{L}$
Nitrate Concentration	4.8 μM 0.067 mg/L
Phosphate Concentration	0.88 μM 0.027 mg/l
Depth (Instrument)	1.708 m 5.60 ft
Current Direction	325.2 ° NW
Current Speed	124.3 mm/s 0.41 ft/s

**FAU Harbor Branch Indian River Lagoon Observatory**

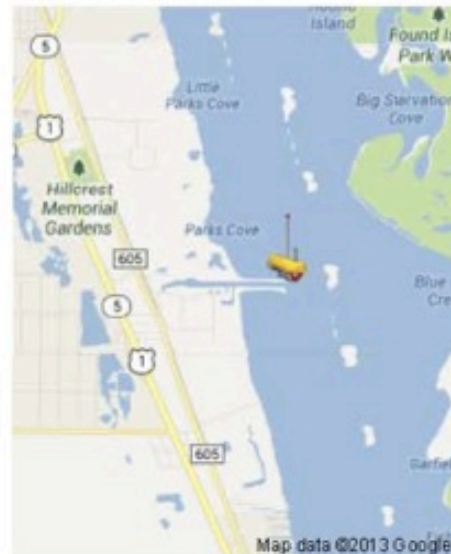
The Indian River Lagoon is situated along 156 miles of Florida coast. The Indian River Lagoon Observatory (IRLO) Program was established by FAU's Harbor Branch to facilitate research as a long-term, multi-disciplinary, ecosystem-based approach to monitoring and studying one of Florida's most significant assets.

The Land/Ocean Biogeochemical Observatory (LOBO) network enables researchers to follow environmental changes in the IRL, assist resource and planning managers to make informed decisions, model and correlate environmental data to biological, chemical and physical phenomena, and contribute to education and public outreach on the lagoon. LOBO 1 is located in the IRL near the mouth of the Harbor Branch Channel (Link Port).

Configuration

Manufacturer	Instrument	Measurements
Satlantic	LOBO	Power distribution Sensor control Wireless communication Data management
Satlantic	SUNA Nitrate	Nitrate Concentration
WET Labs	WQMX Water Quality Monitor	Salinity, Temperature, Dissolved Oxygen, Turbidity, Chlorophyll Concentration, CDOM (Water Color), Depth (Pressure)
WET Labs	Cycle PO ₄ Meter	Phosphate
Nortek	Aquadopp	Current Speed, Current Direction

27° 32' N 80° 21' W

**Archived Data**

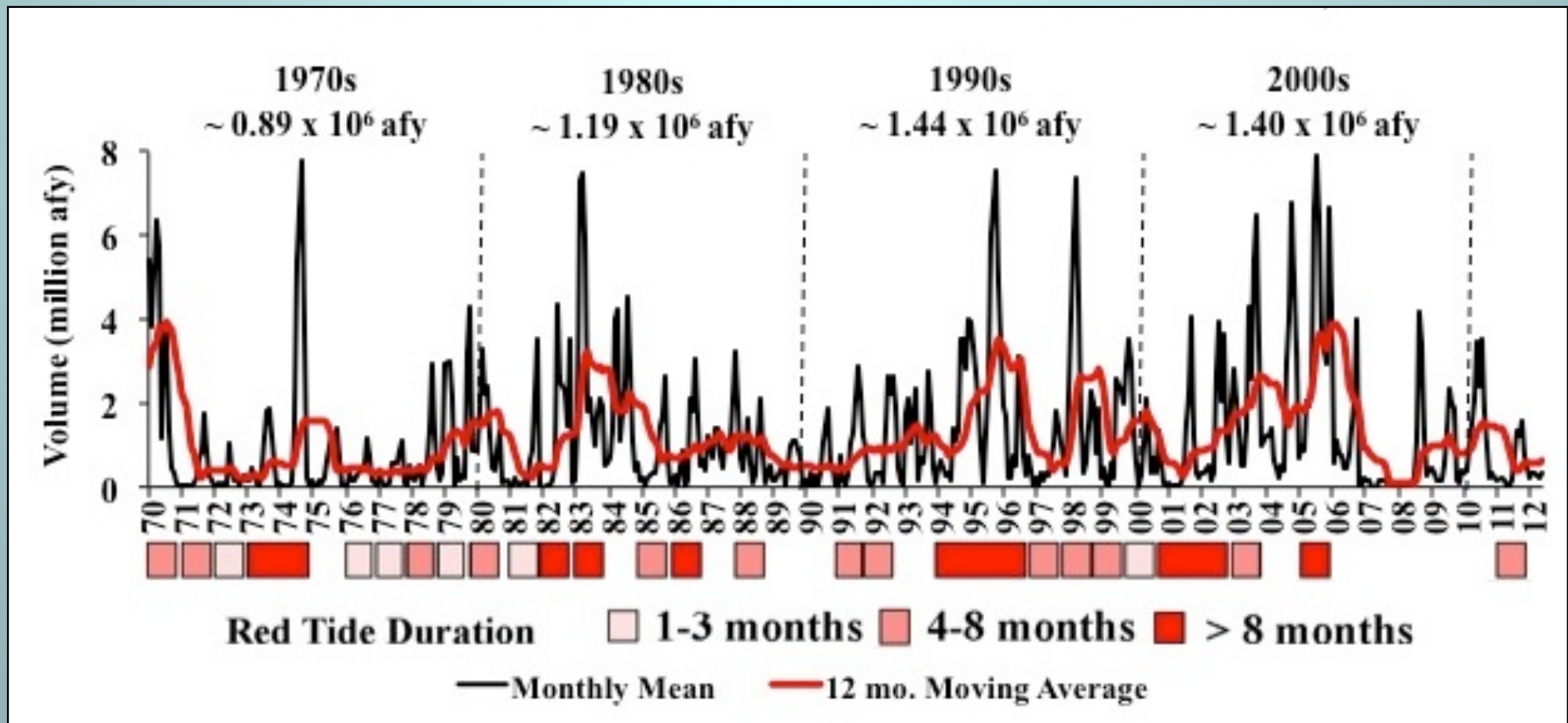
Use LOBOviz to graph and download archived data from this LOBO node.

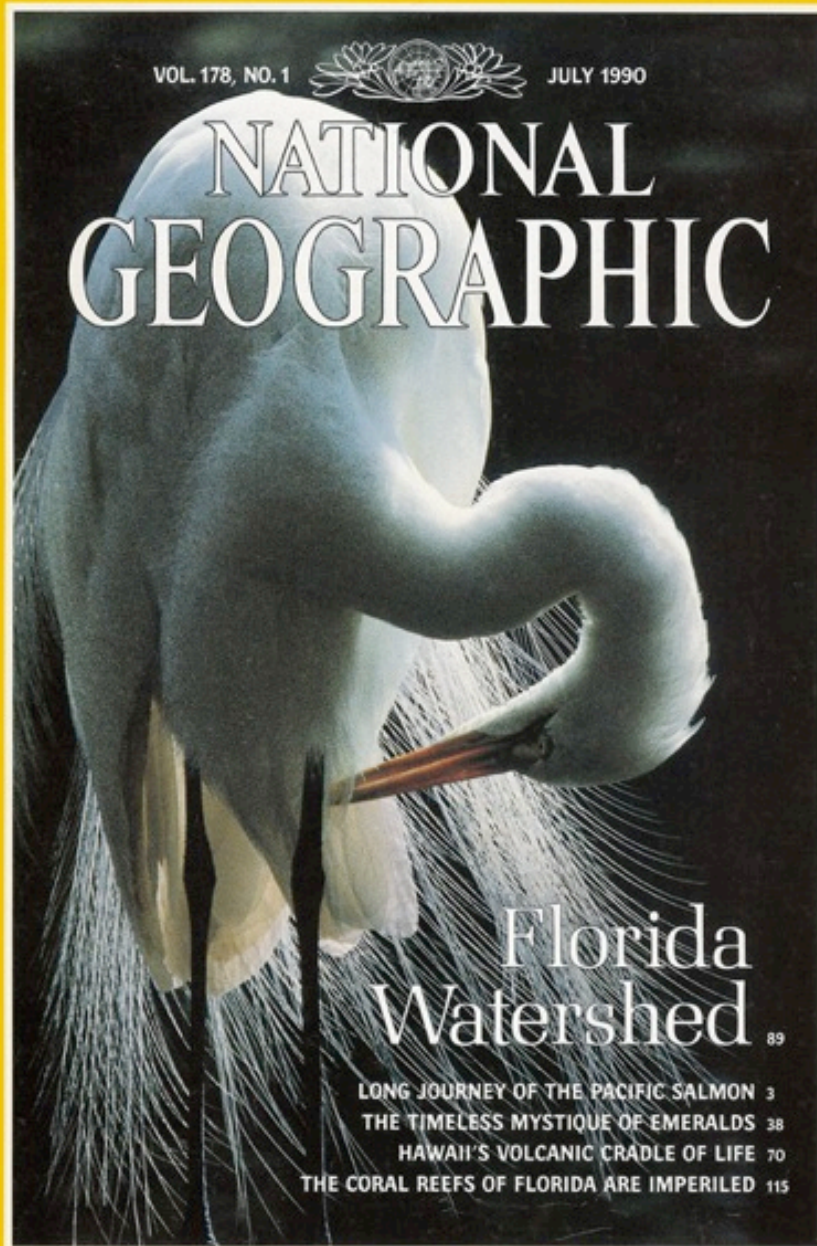
<http://fau-hboi.loboviz.com>

Continuous real-time, high-accuracy and high-resolution observatory data available to all through a dedicated interactive website to better quantify and model relationships between environmental factors and biological processes in the IRL

Lee County Water Quality Studies: 2004 - 2012

- Strong correlation between Caloosahatchee flows and red tide events on west coast
- 2005 post-hurricane Dead Zone
- Major economic, ecological, and human health impacts



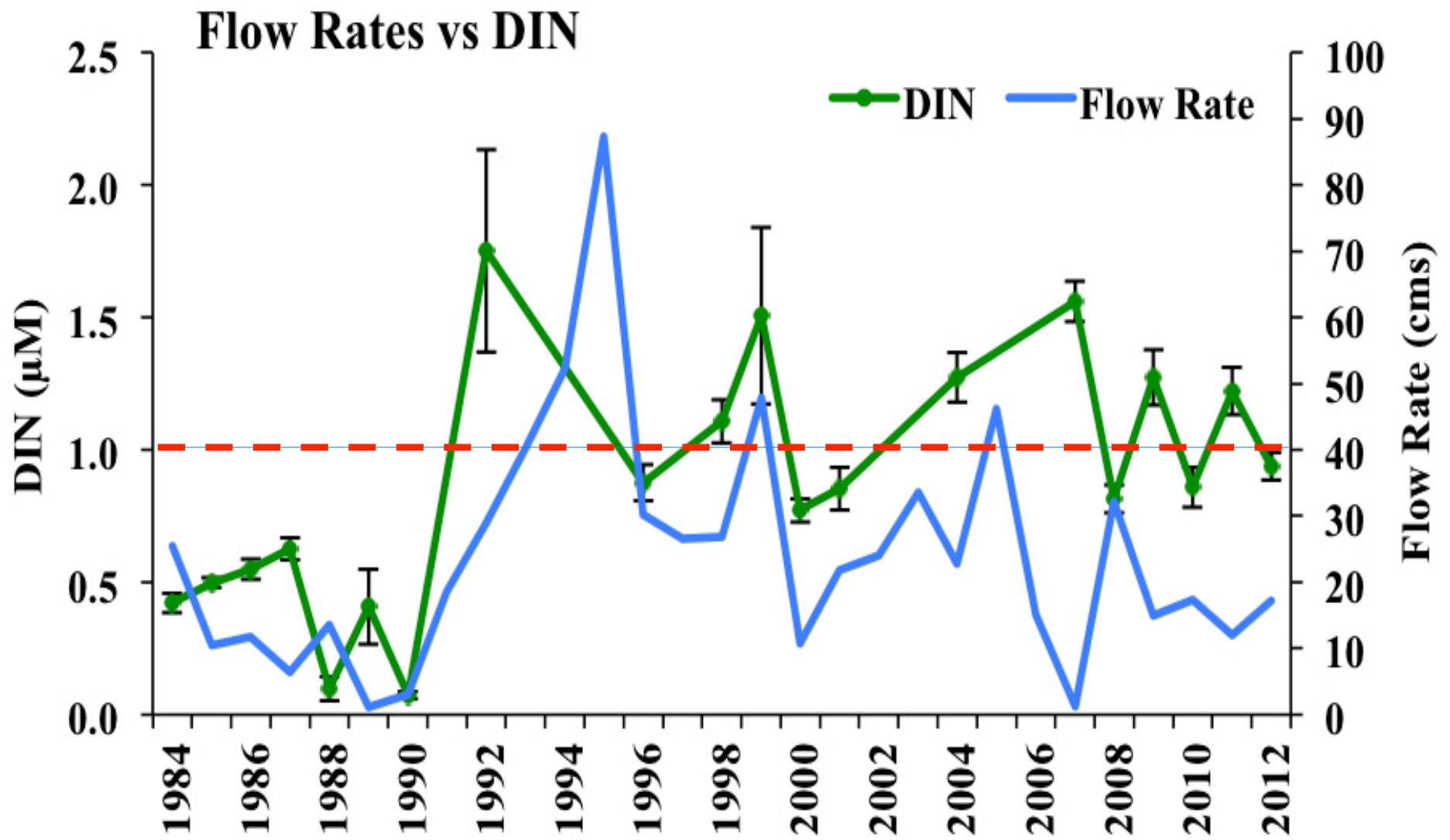


Plan 6 - Move Water South Is this the Best Solution?

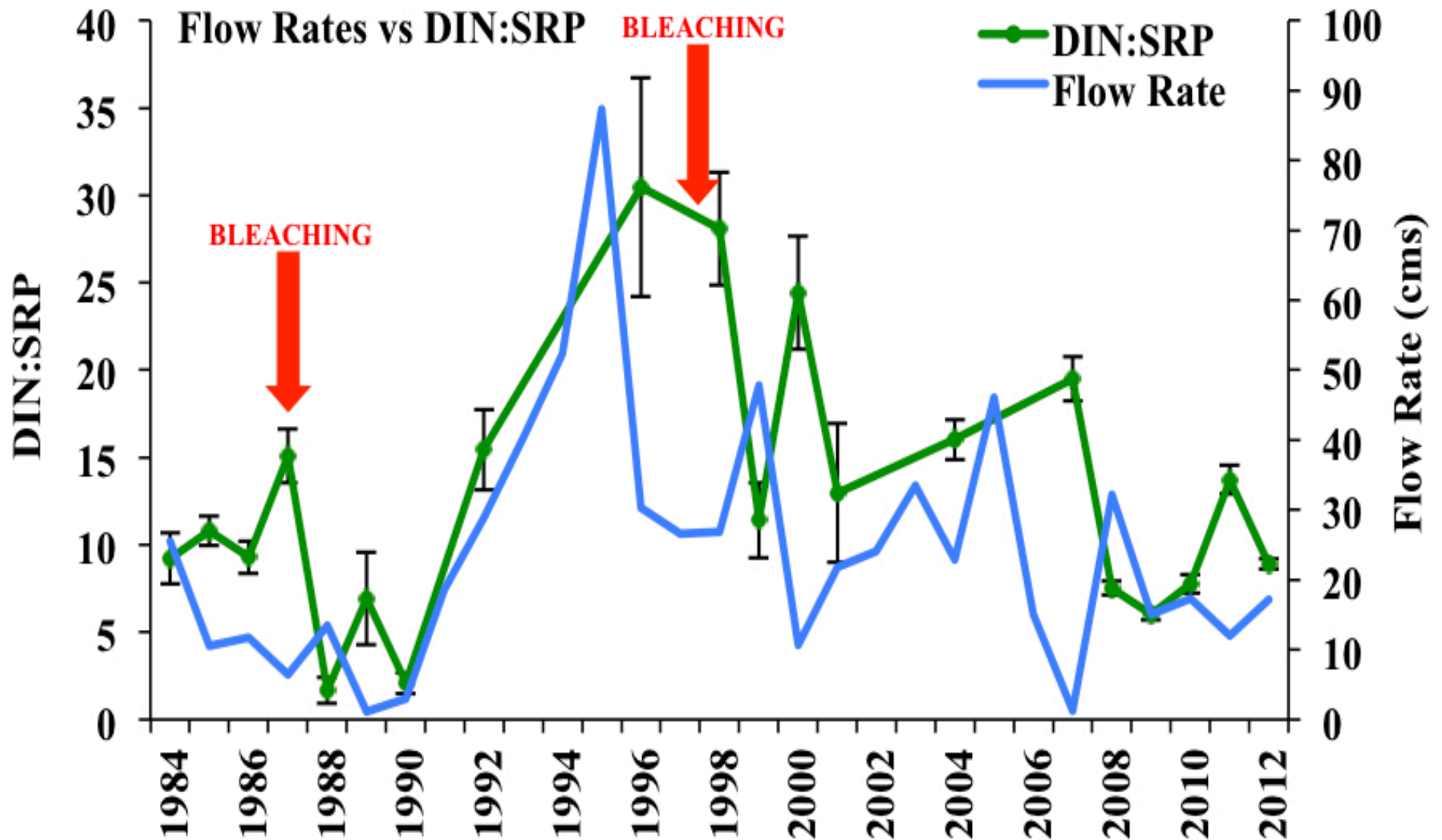
“Nutrient pollution is pushing Florida’s reefs beyond their ability to survive. Cleaning up the sewage in the Florida Keys would be a major step in the right direction...agricultural pollution should be kept away from the Keys reefs...”

Brian Lapointe

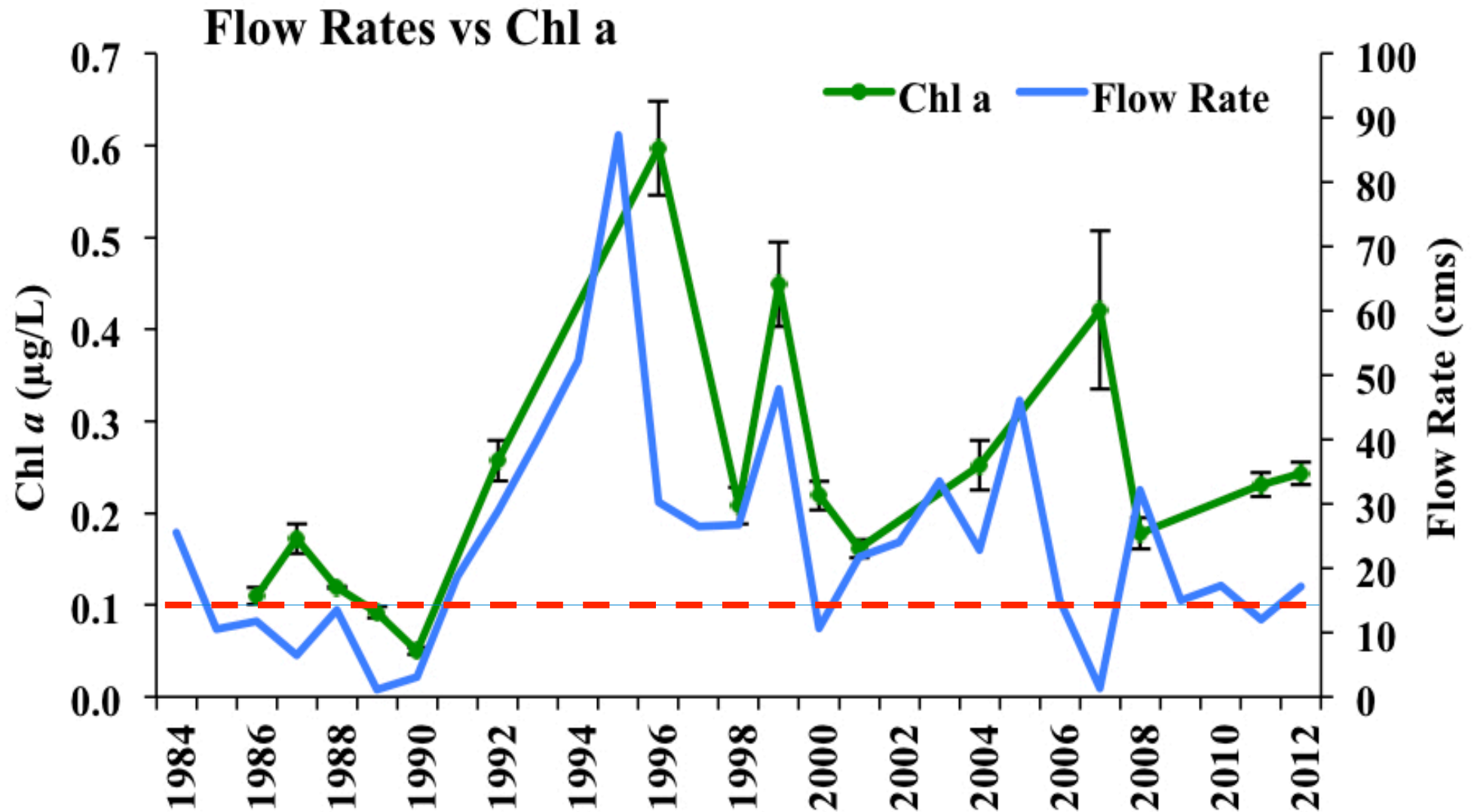
Everglades Discharges Fuel N-Driven Eutrophication at Looe Key in the 1990s



Everglades Discharges Correlate With Elevated N:P Ratios and Coral Bleaching

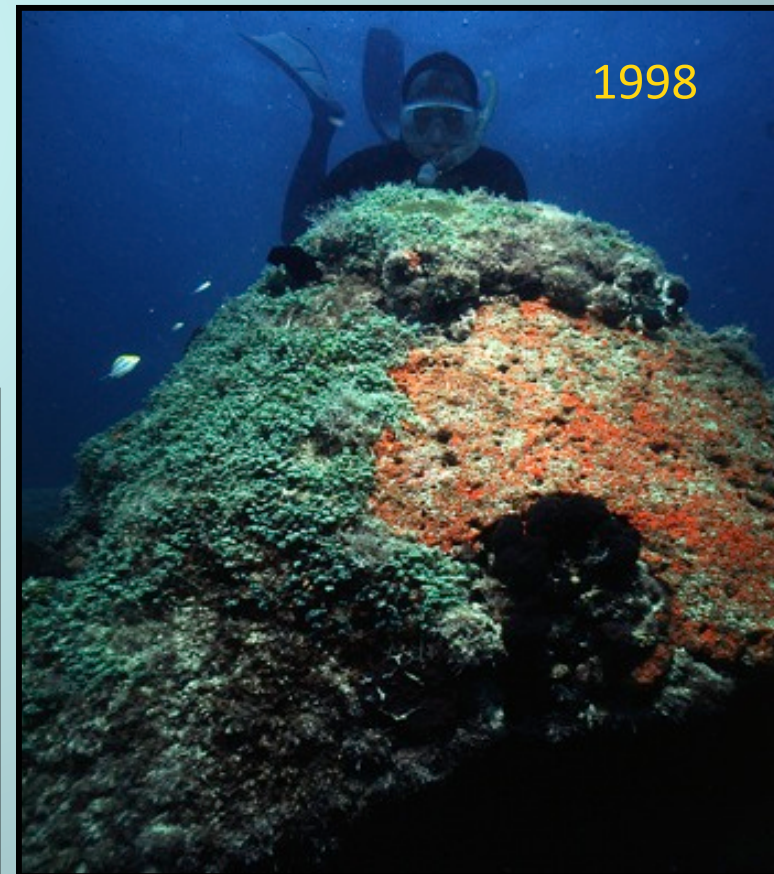
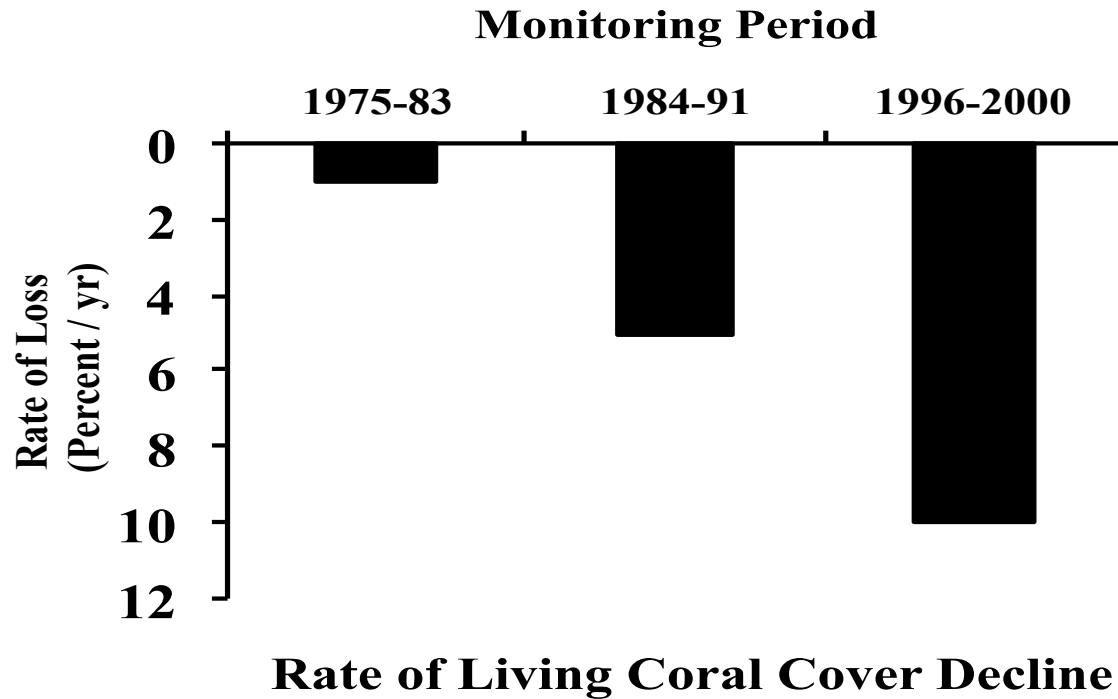


Everglades Discharges Correlate With Chlorophyll *a* at Looe Key



Rate of Coral Loss in the Florida Keys: 1975-2000*

*Data provided by Phil Dustan



National Academy of Sciences CROGEE FL Bay Report - 2002

Naples | Naples Daily News



[Naples front](#) | [Naples archive](#) | [help](#)

Report: Everglades restoration may harm Florida Bay

Friday, August 9, 2002

By JENNIFER SERGENT, sergentj@shns.com

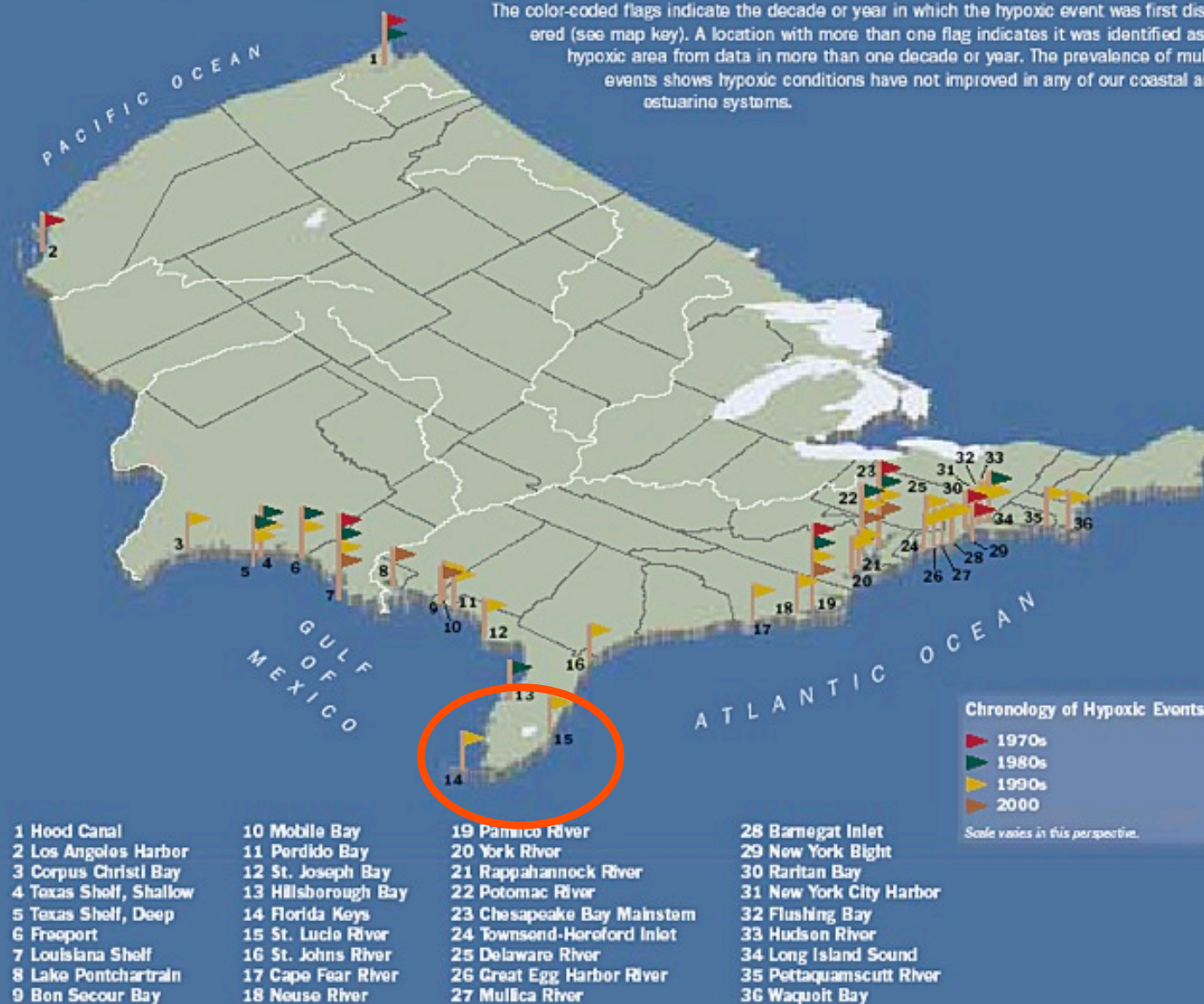
The widely held perception that the murky, ailing Florida Bay will recover when the Everglades restoration sends more fresh water there could be wrong, a group of scientists wrote in a report released Thursday.

U.S. Coastal Dead Zones Associated with Human Activity

Many coastal ecosystems around the United States have documented low levels of dissolved oxygen, a condition known as hypoxia. Often these hypoxic areas—also known as dead zones—are a result of both natural and anthropogenic events. The map below shows the distribution of dead zones in U.S. coastal waters that are associated with human activity.

Dead zones are concentrated along the Atlantic and Gulf coasts because of the proximity of heavily populated areas and the intense agricultural practices that create the discharge of large quantities of nutrients into coastal waters. Warmer summer temperatures in these waters stratify the water column, a component in the development of hypoxia. Waters along the Pacific coast of the U.S. are not prone to stratification of the water column.

The color-coded flags indicate the decade or year in which the hypoxic event was first discovered (see map key). A location with more than one flag indicates it was identified as a hypoxic area from data in more than one decade or year. The prevalence of multiple events shows hypoxic conditions have not improved in any of our coastal and estuarine systems.



Pew Oceans Commission Report - 2003

Water Quality Improvement Solutions

Short-Term

- Increase water levels in existing storage areas
- Use EAA lands for immediate storage

Long-Term

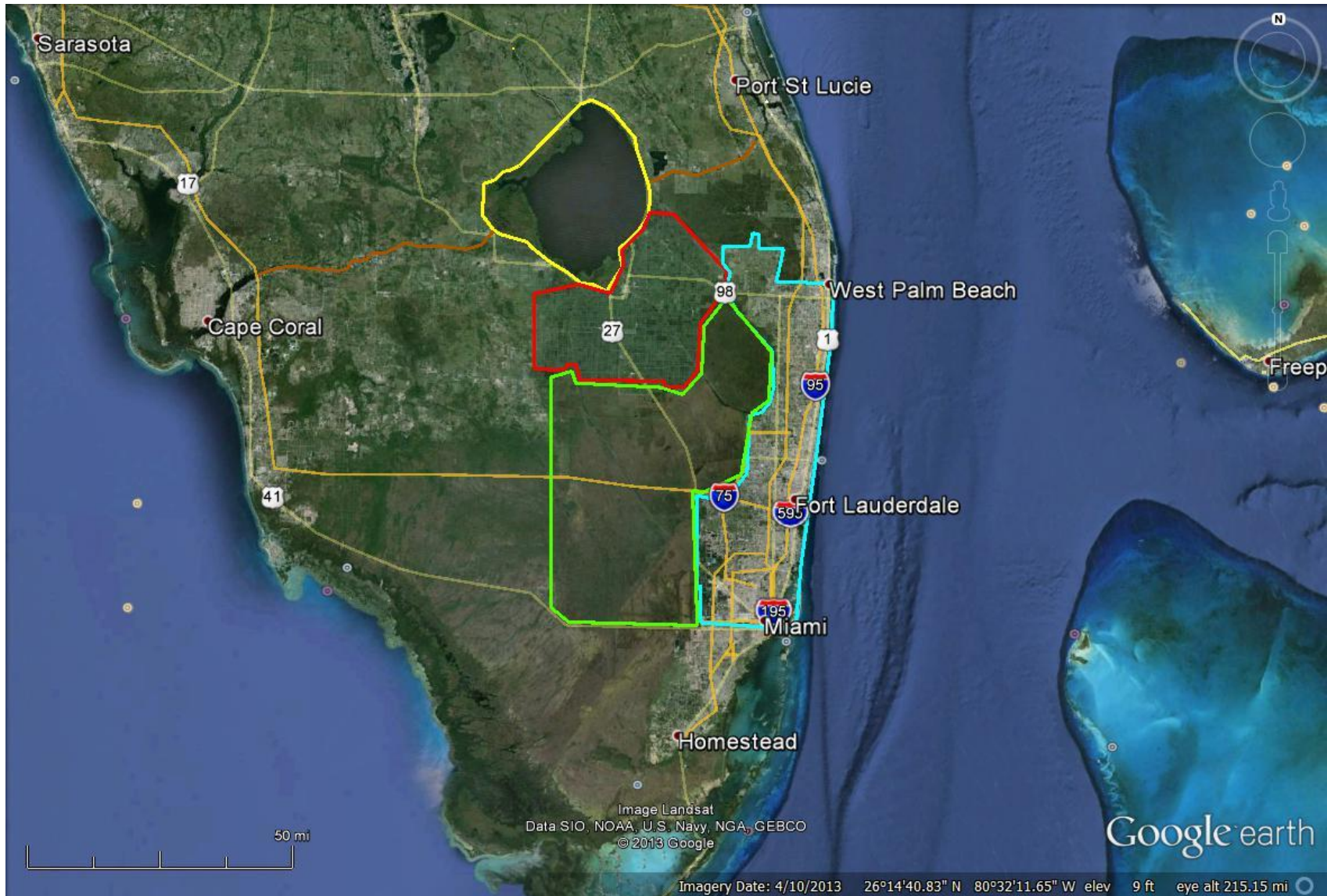
- Negotiate the purchase and restoration of agricultural lands to increase natural storage
- Fast-track the construction of proposed reservoirs and associated STAs for removal of *N and P*
- Broad IRL-Wide Nutrient Management Program (e.g., Southwest Florida Wilson-Grizzle Act of 1972 & Grizzle-Figg Act of 1978)

S. Fla. Water Management 101

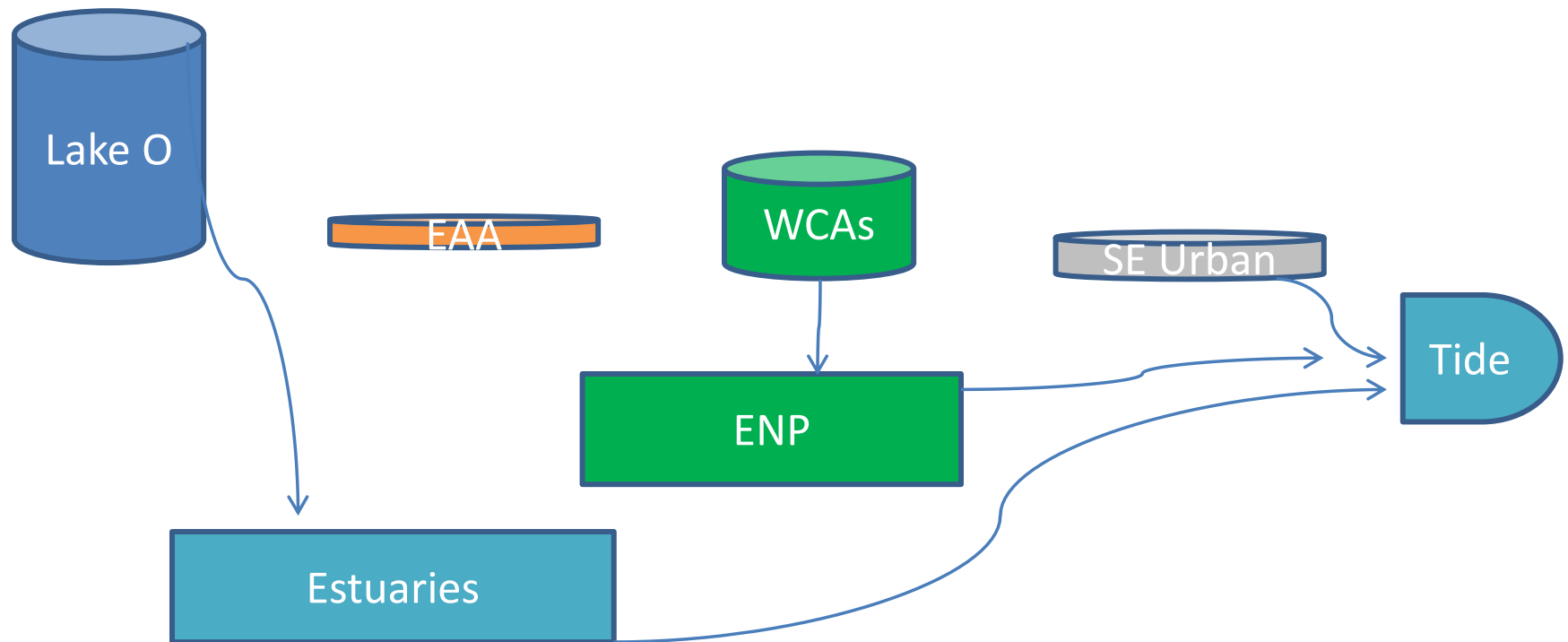
- Storage capacity is easy to understand
- Conveyance is harder to understand
- Drainage by gravity in canals is generally small
- Drainage by pumping from canals is as large as the pumps are
- Major canals from Lake O to SE Coast, originally continuous, are now independent canal segments operated according local rules
- Drainage into Lake O is about 40,000 cfs maximum
- Drainage out of Lake O east and west is about 15,000 cfs maximum
- Drainage out of Lake O south via SE Fla canals is 0
- Pumped drainage for EAA is about 25,000 cfs
- Gravity drainage of EAA is 0
- About half of pump capacity out of EAA could be used to send Lake O water south, but is not.

5 Major Components

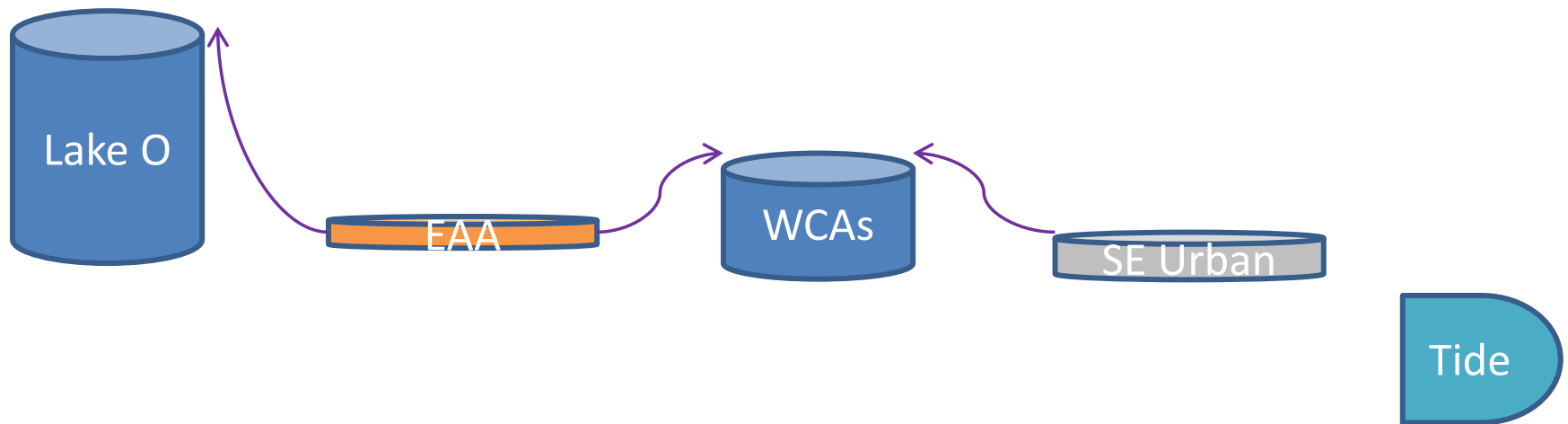
Lake O; EAA; WCA's; SE Urban; Estuaries



Pictograph of major gravity drainage elements

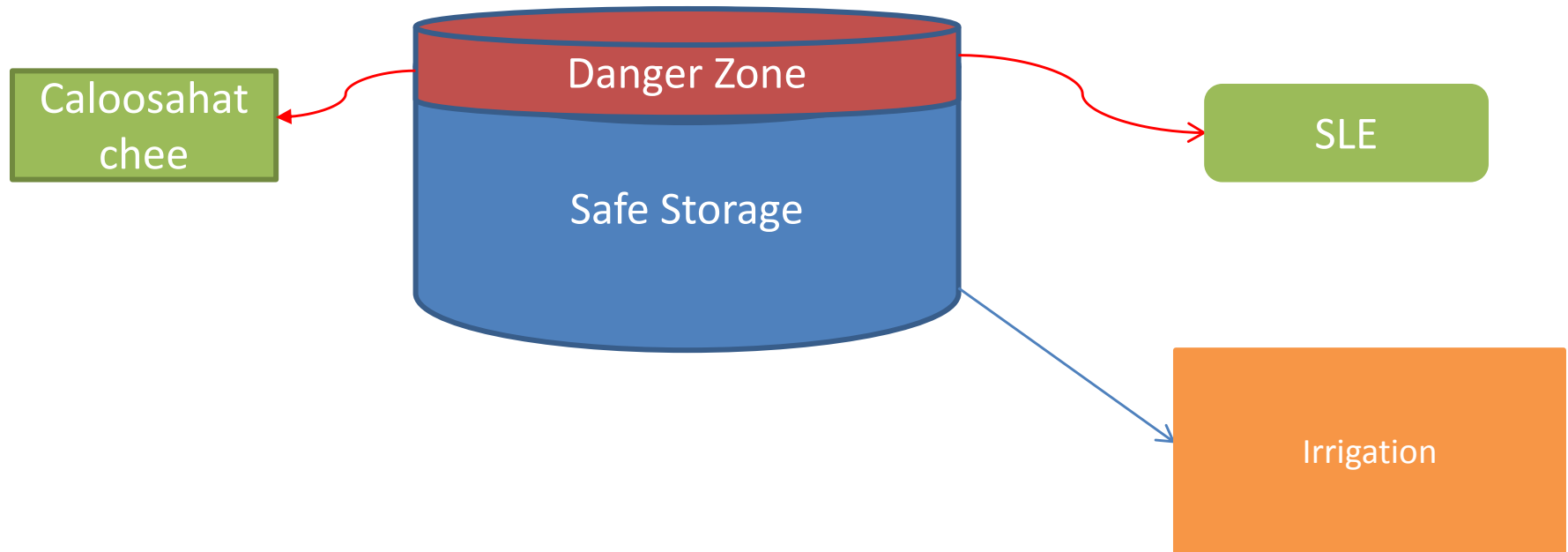


Pictograph of major pumped drainage elements



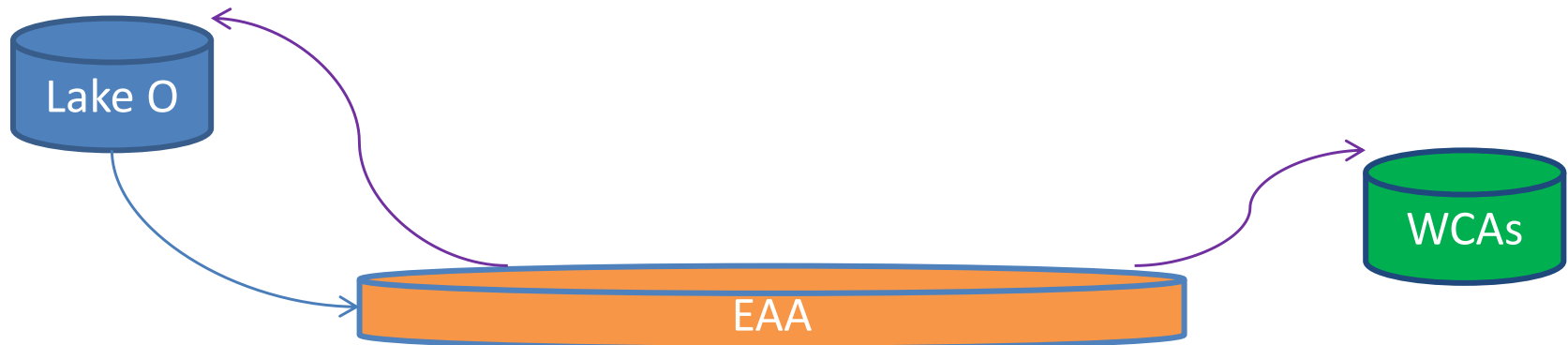
Lake O

- Lake irrigation storage range 10-15', about 2.5M acre-feet of "safe" storage
- Lake release to tide in "danger zone" range about 15'+ up
- 0 acre-feet storm storage now



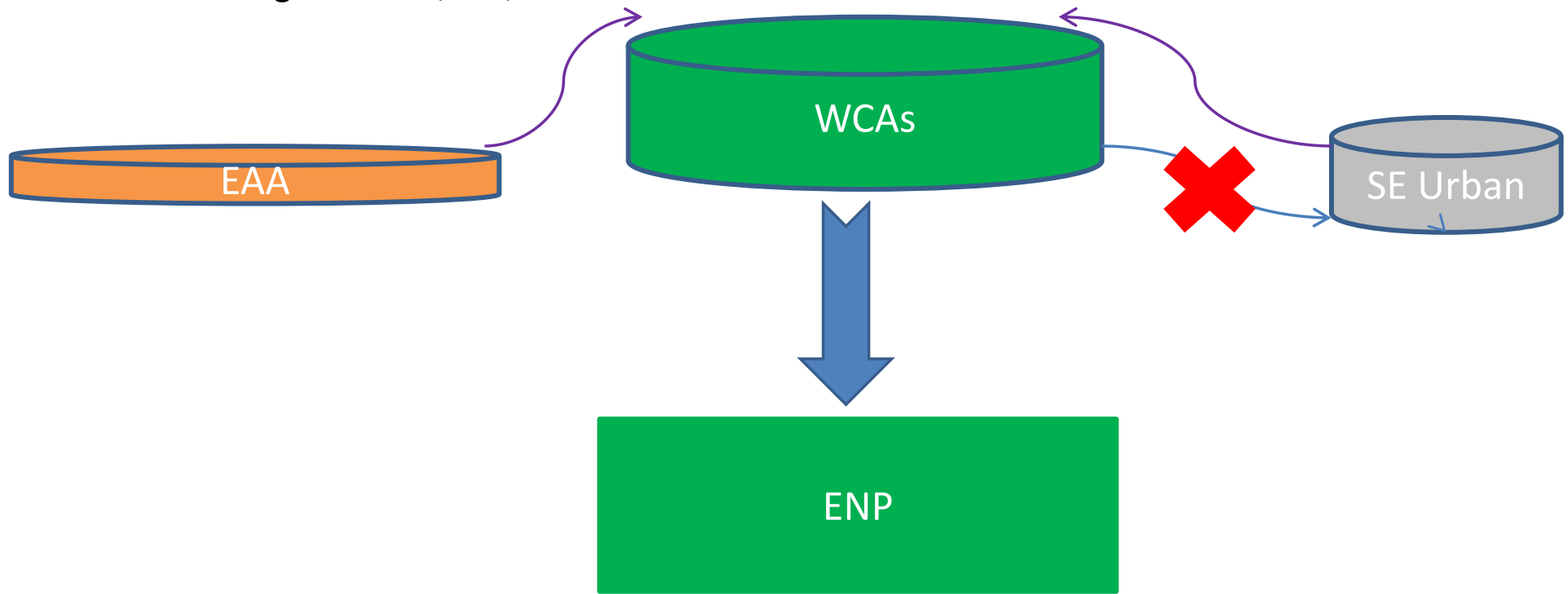
EAA

- Gravity irrigation
- Drainage by public pumping to WCAs and Lake O
- Water table maintained constant beneath fields
- 0 acre-feet storm storage
- Subsidence continues, so both pumping costs and stress on HHD grow worse over time



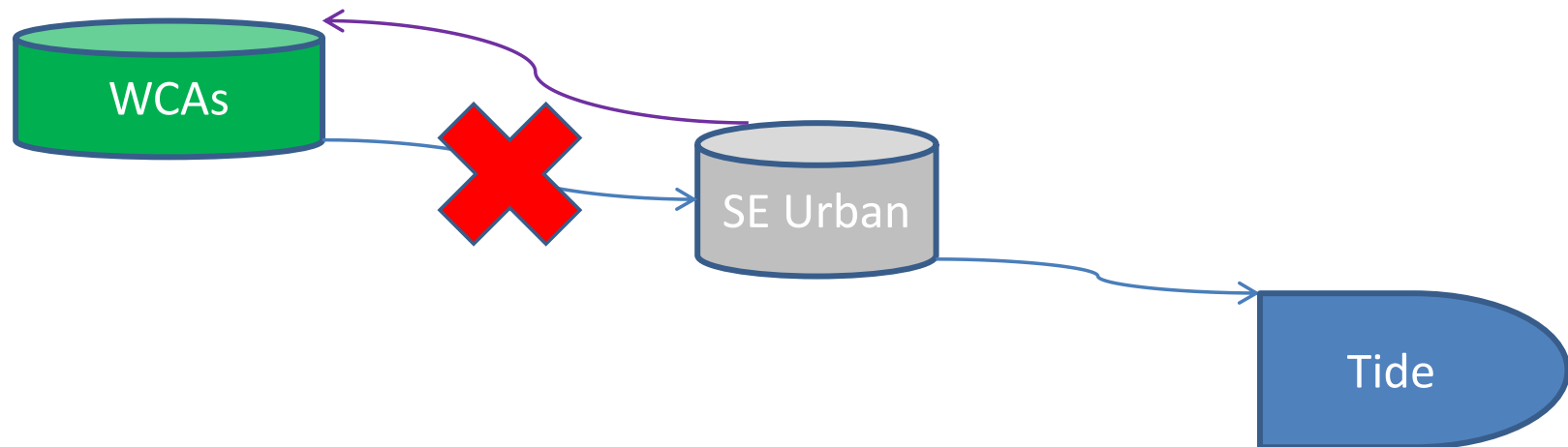
WCAs

- Only source of water is pumping from EAA and SE Urban
- EAA drainage is main source of water
- Gravity outlet to Everglades National Park.
- Gravity outlets to tide through SE Urban inadequate or not used.
- Storm storage about 1,000,000 af

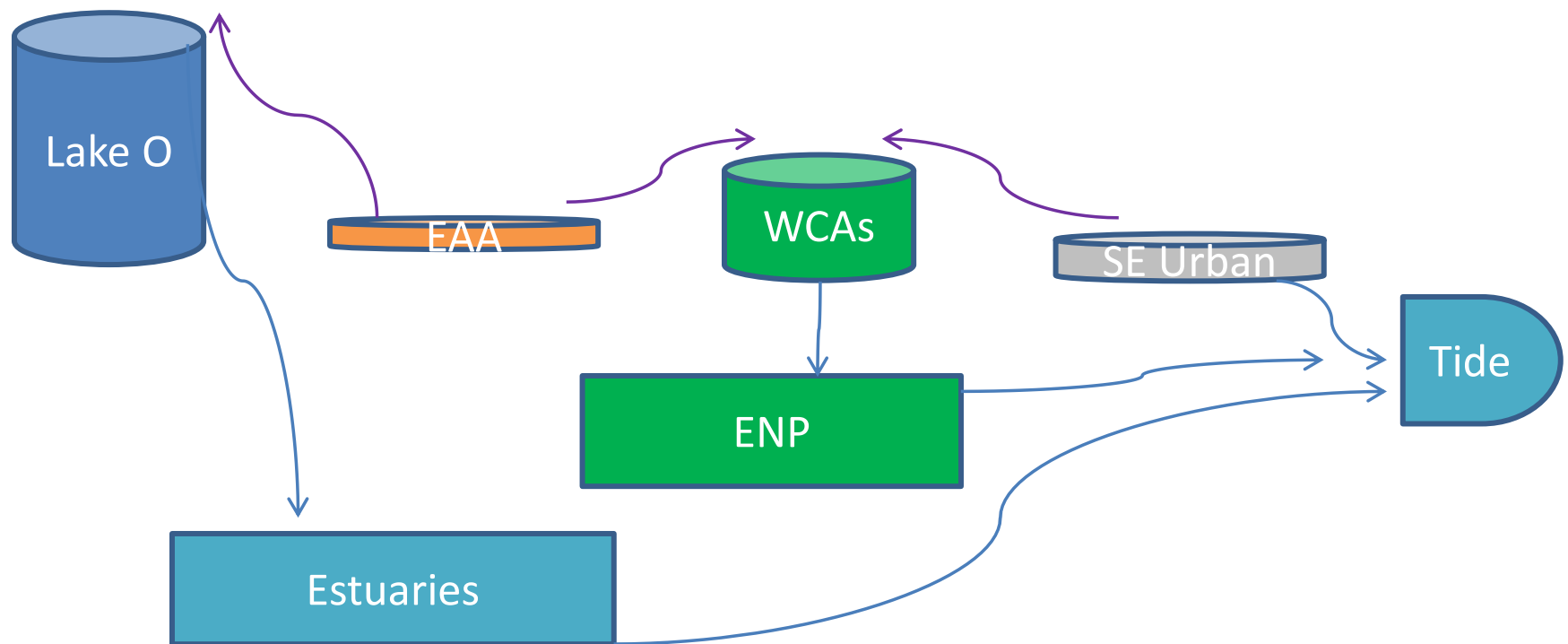


SE Urban

- Gravity drainage to tide
- Water is pumped to WCAs for flood control when gravity drainage is inadequate
- Storm storage local only, inadequate to prevent backpumping to WCAs



Pictograph of major drainage elements

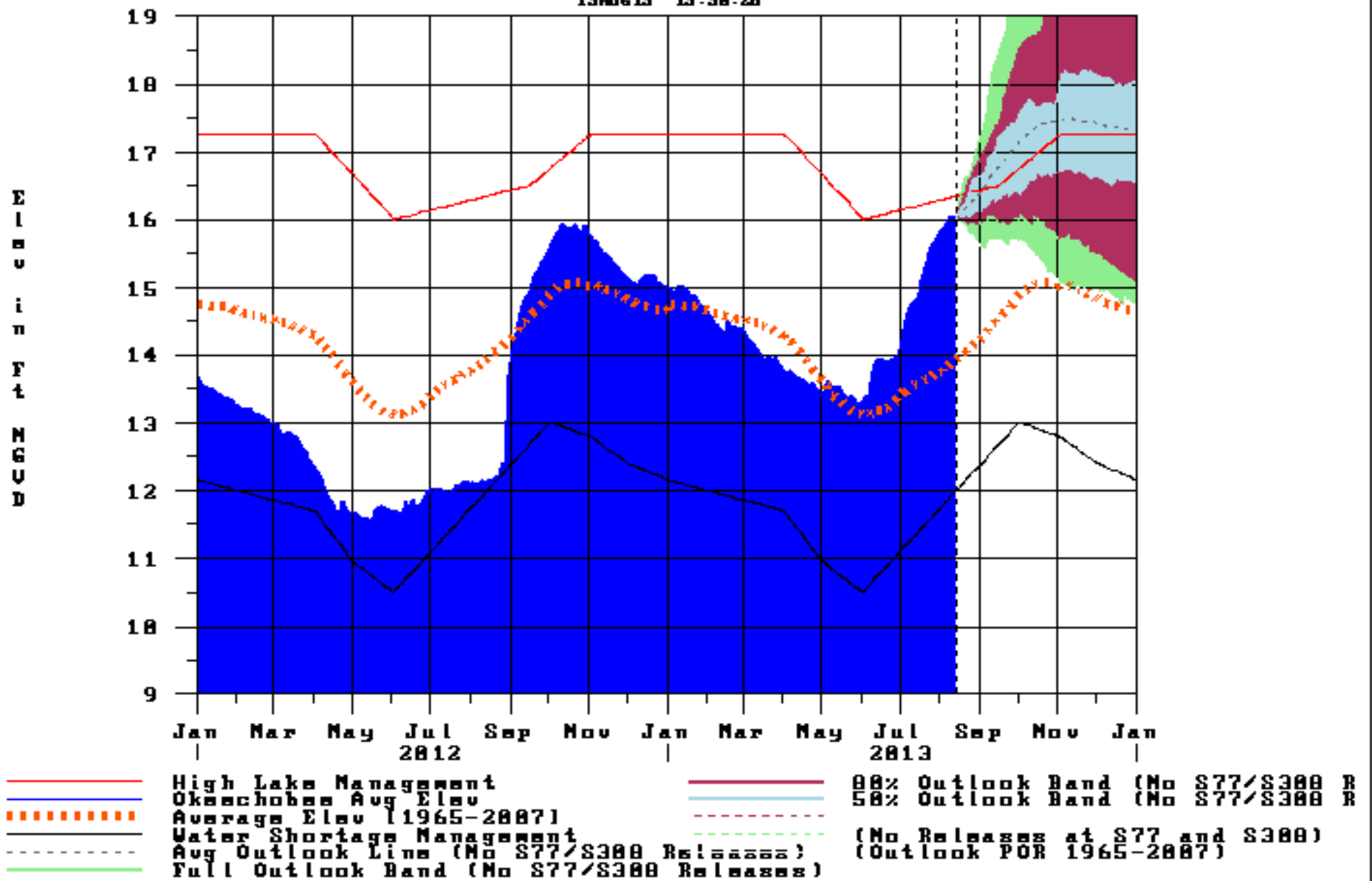


Status 8/12/13

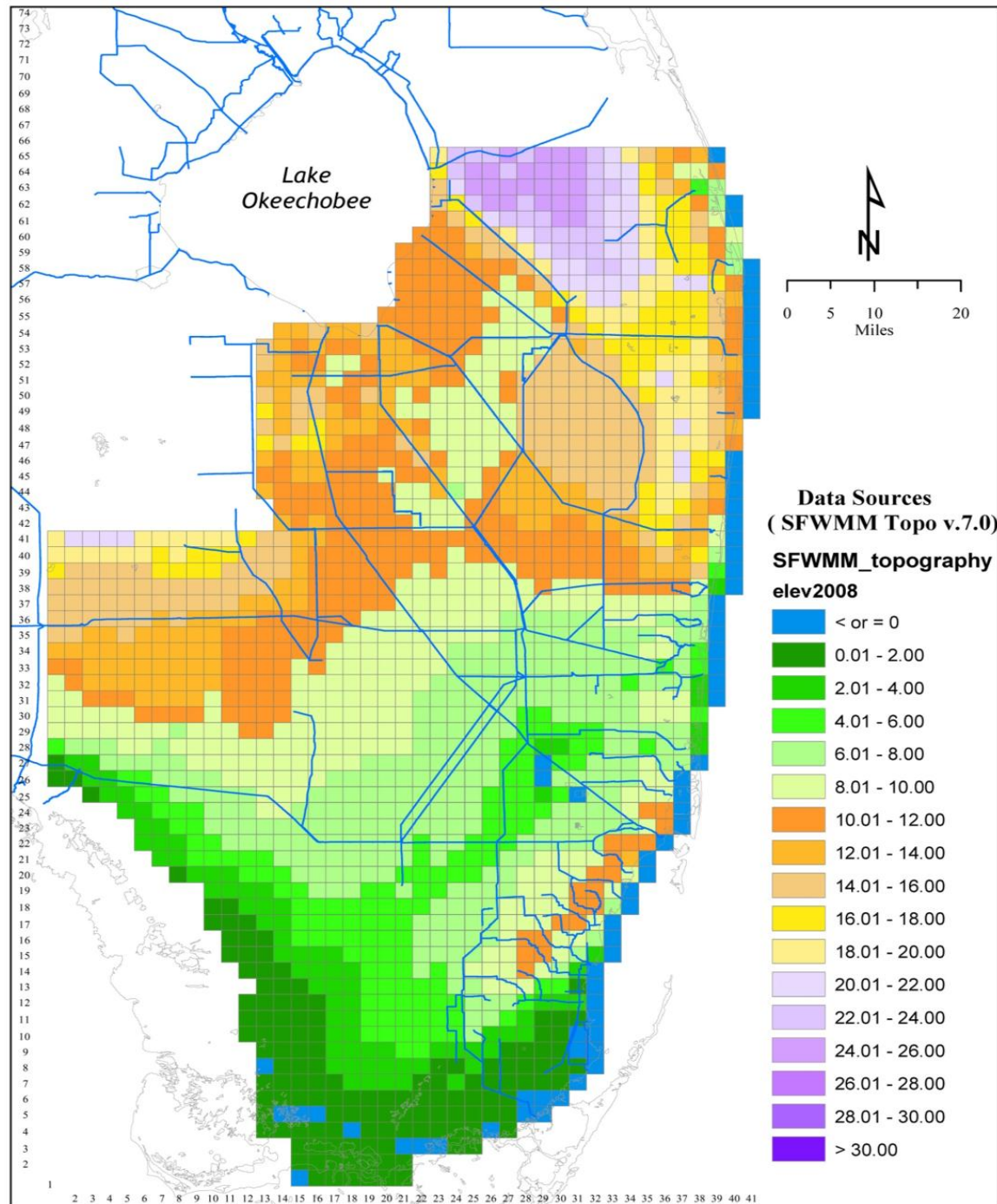
- Lake O by far the largest storage and is full
- EAA has no storage but has instant drainage demand. When it rains water is pumped to WCAs and Lake O regardless of stages
- WCA's have broad shallow storage, are full, and drain slowly to ENP
- SE Urban has no storage useful to rest of system
- Outlets to tide from WCAs through SE Urban are inadequate or are not used
- Outlets to south (ENP) are inadequate but open (S-12 A and B just made available end of July)

Lake Okeechobee

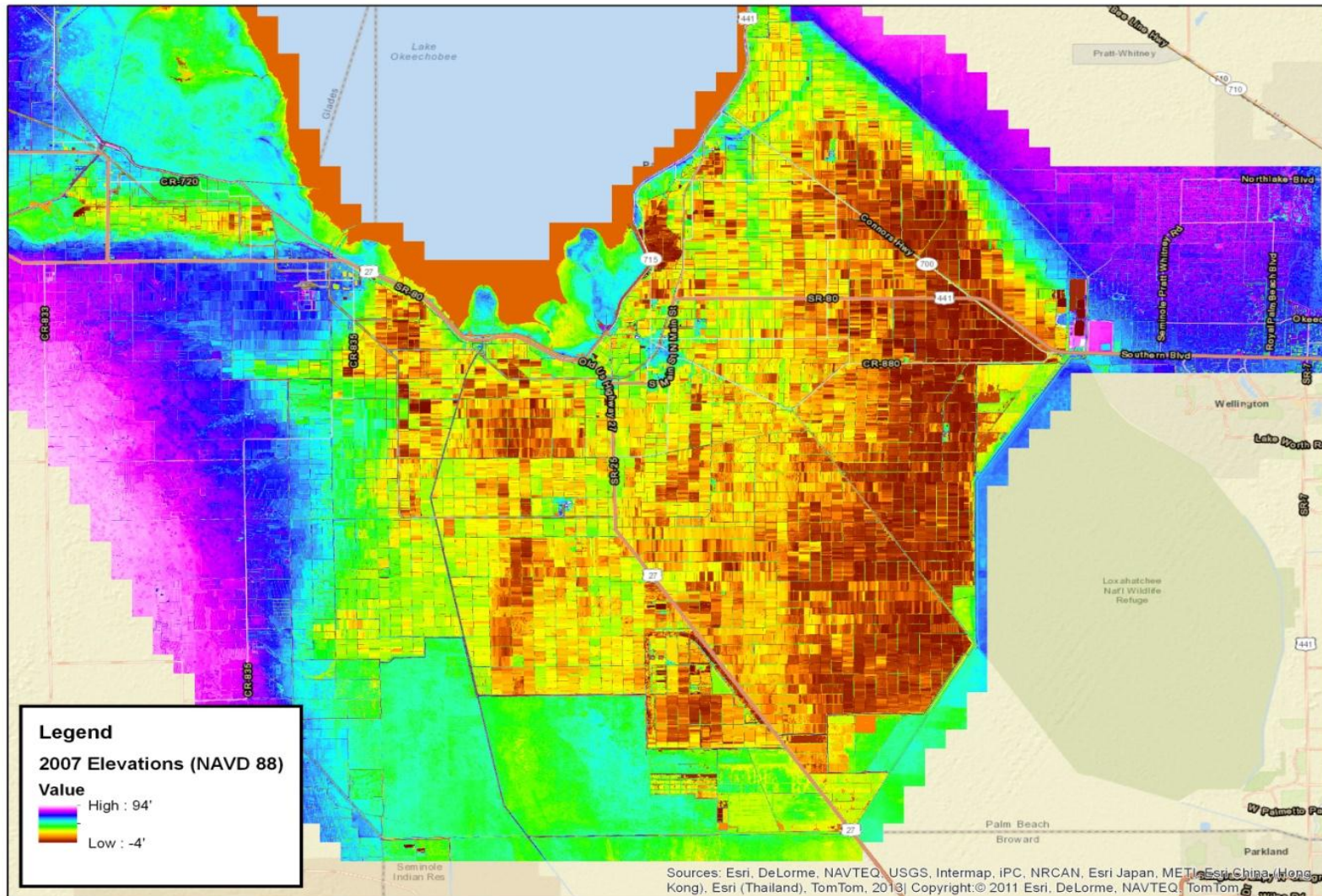
13AUG13 13:38:28



SFWMM Topography v7.0



SFWMD Lidar



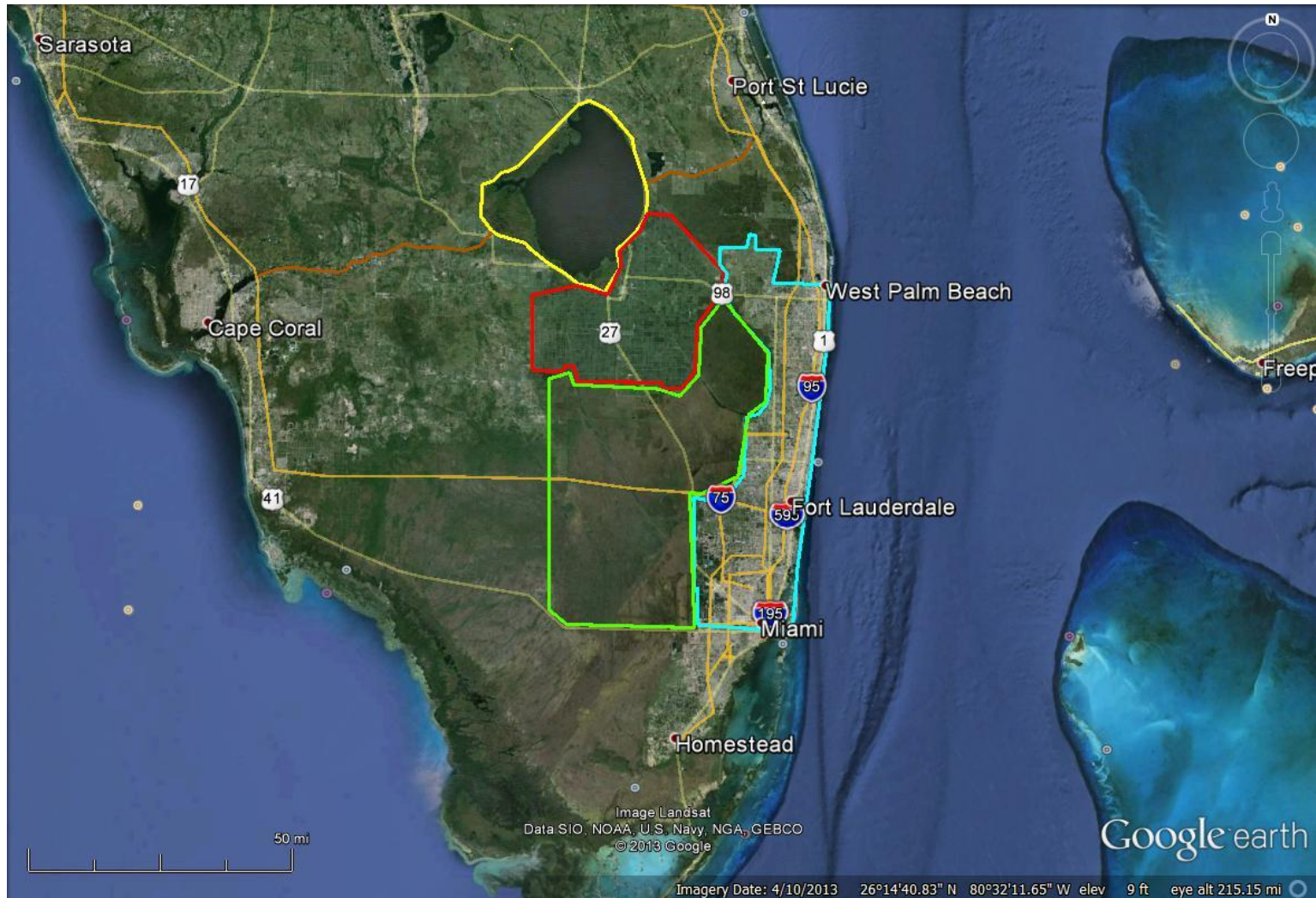
Options

- Immediate
 - Pump WCA's around bottleneck structures in canals to tide at maximum rates in SE Urban area
 - Pump Lake O into STA's : over 12,000 cfs pumping capacity normally used for EAA drainage can be used to lower Lake
 - Reduce EAA drainage to 33 % of current level of service, 1/4" per day rather than 3/4"/day until Lake O is under control
 - Prepare to flood Plan 6 footprint or East EAA or both in September-November 2013
- Short Term
 - Bring Lake O down to 12' or less by May 30 every year by sending water south to recharge well fields and ENP
 - Increase permanent outfall to tide for WCA's
 - Condemn land for south flow-way
- Long Term
 - Improve WCA emergency outlets to tide to convey at least 1/3 of maximum Lake O inflows
 - Implement Plan 6 or its equivalent

Summary

- EAA is the tail that wags the South Florida Water Management District.
- SFWMD obviously cannot maintain perfect drainage and water supply to EAA and protect the rest of us at the same time.
- Permanent conveyance south from Lake O is beyond overdue.
- HHD crisis is on us now and getting worse day by day.
- If HHD fails, people will die.
- South Florida requires connections between Lake O, WCA's, ENP and tide that can convey waters adequate to protect HHD from failure.
- Destroying the Coastal Estuaries is an ongoing tragedy, not a solution.
- EAA drainage is the sole water supply to ENP and South Florida residents
- In dry years, South Florida residents and ENP cannot get Lake O water.

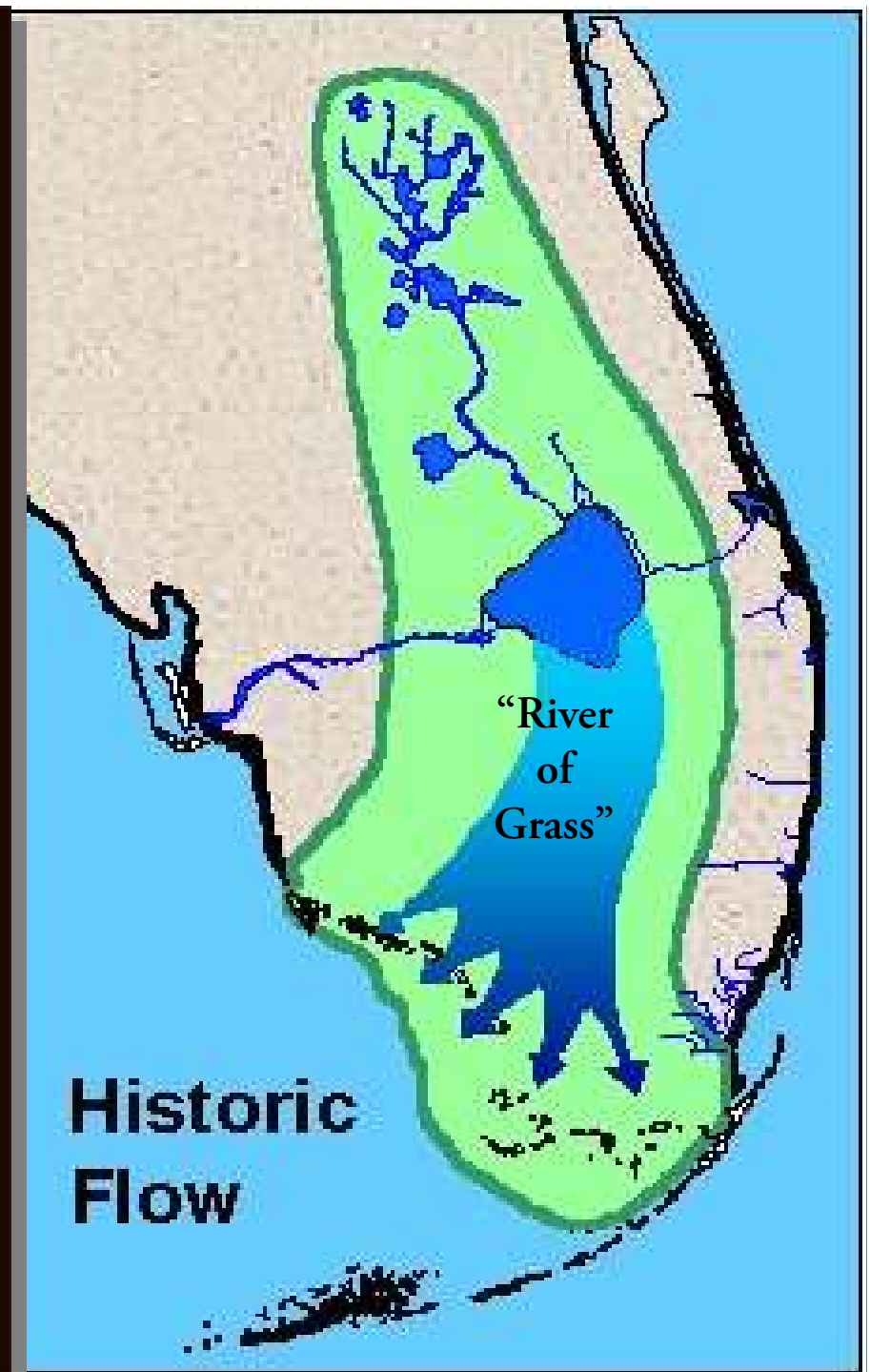
Questions?

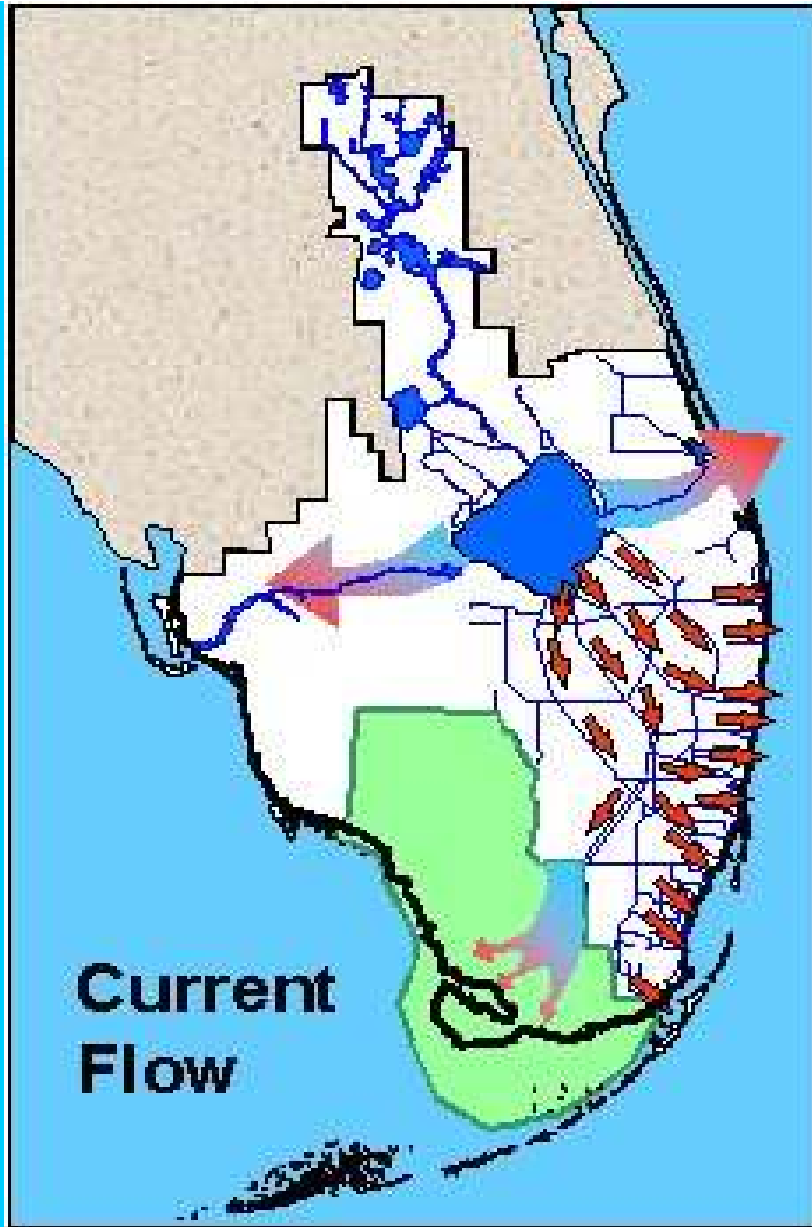


Plan 6 Project

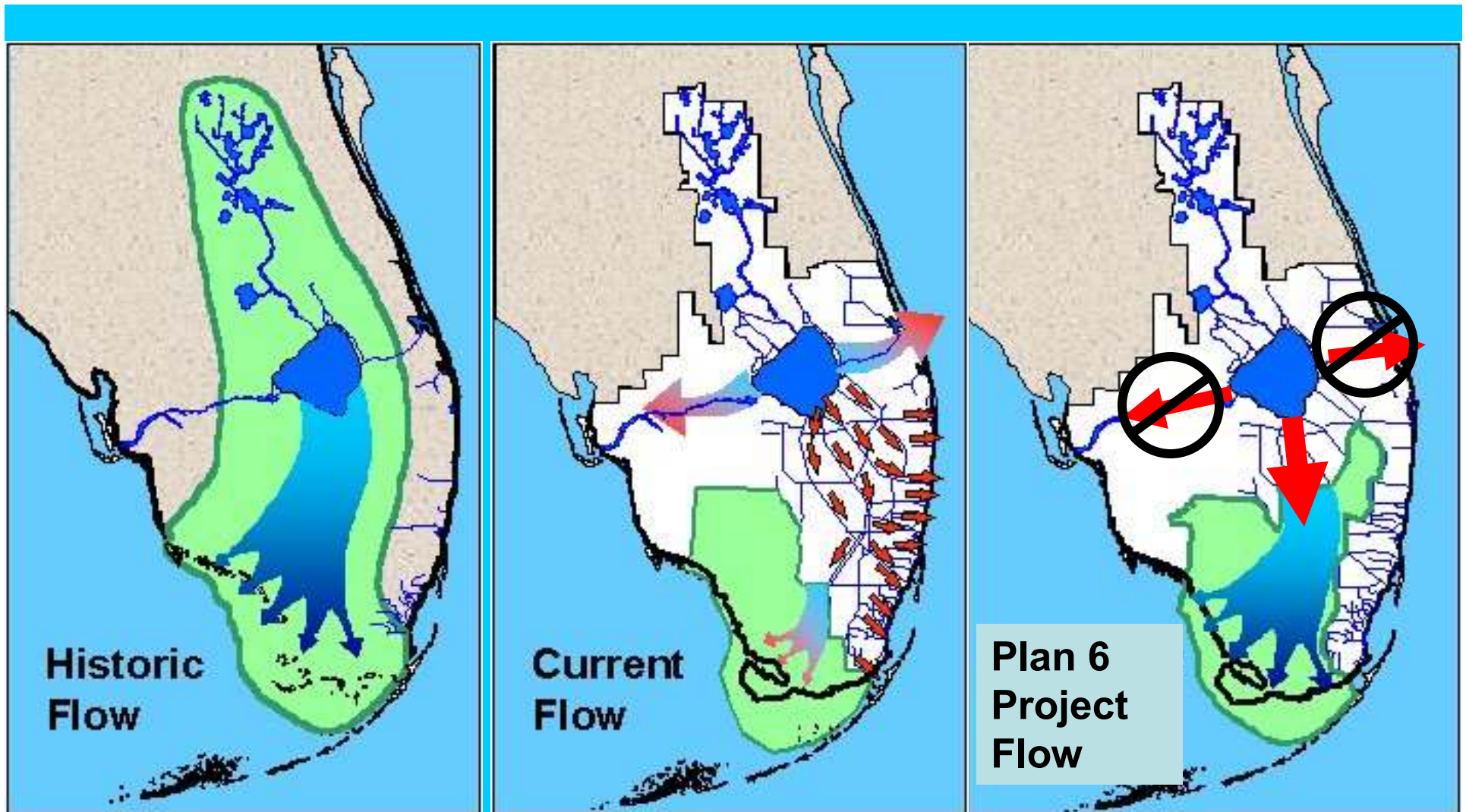
**Stop the destructive
discharges to the
Northern Estuaries and
Restore the River of Grass**



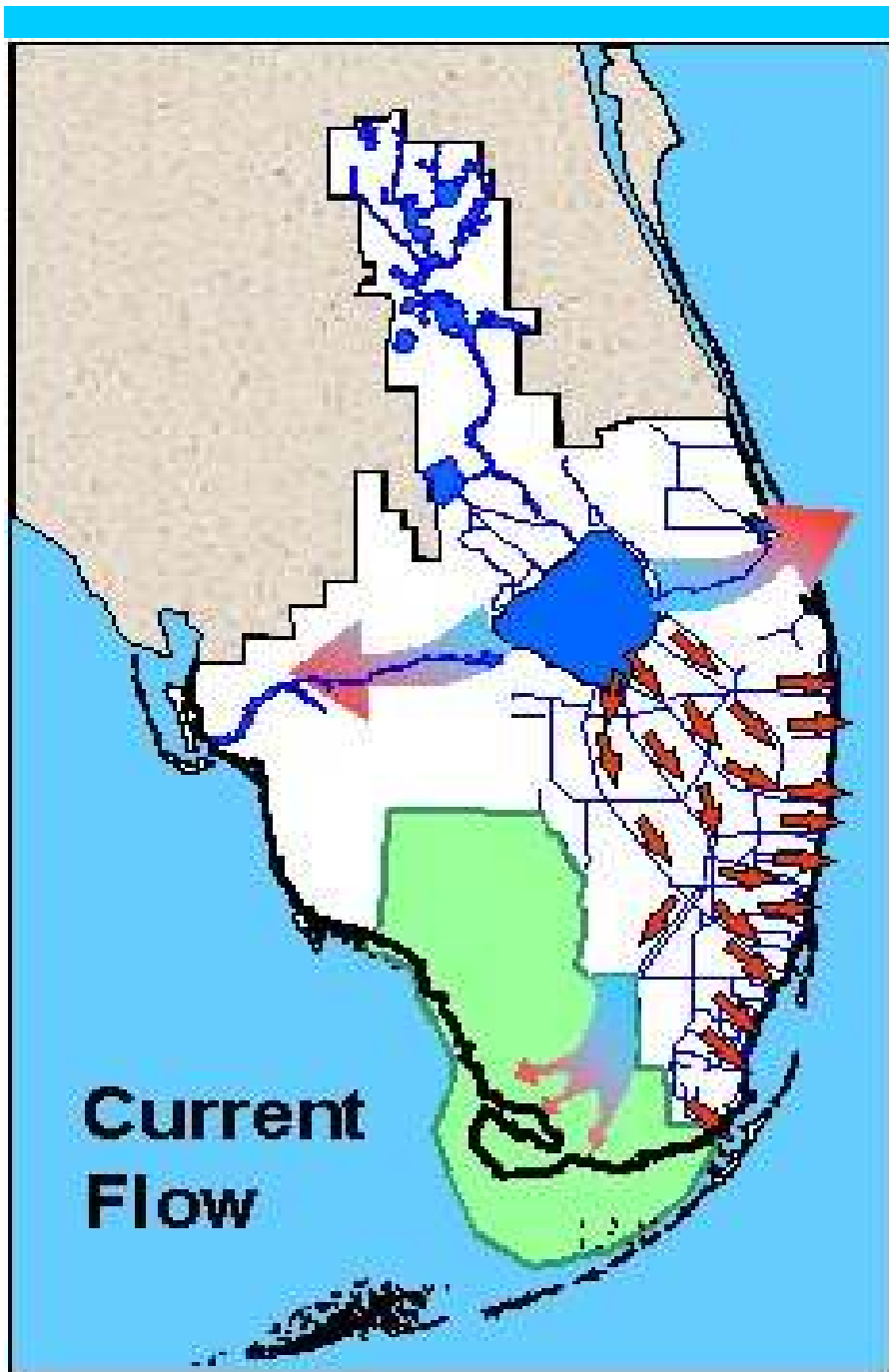




1.7 Billion Gallons per Day of freshwater is wasted to the Atlantic Ocean and Gulf of Mexico! (\$5.9 million/day)

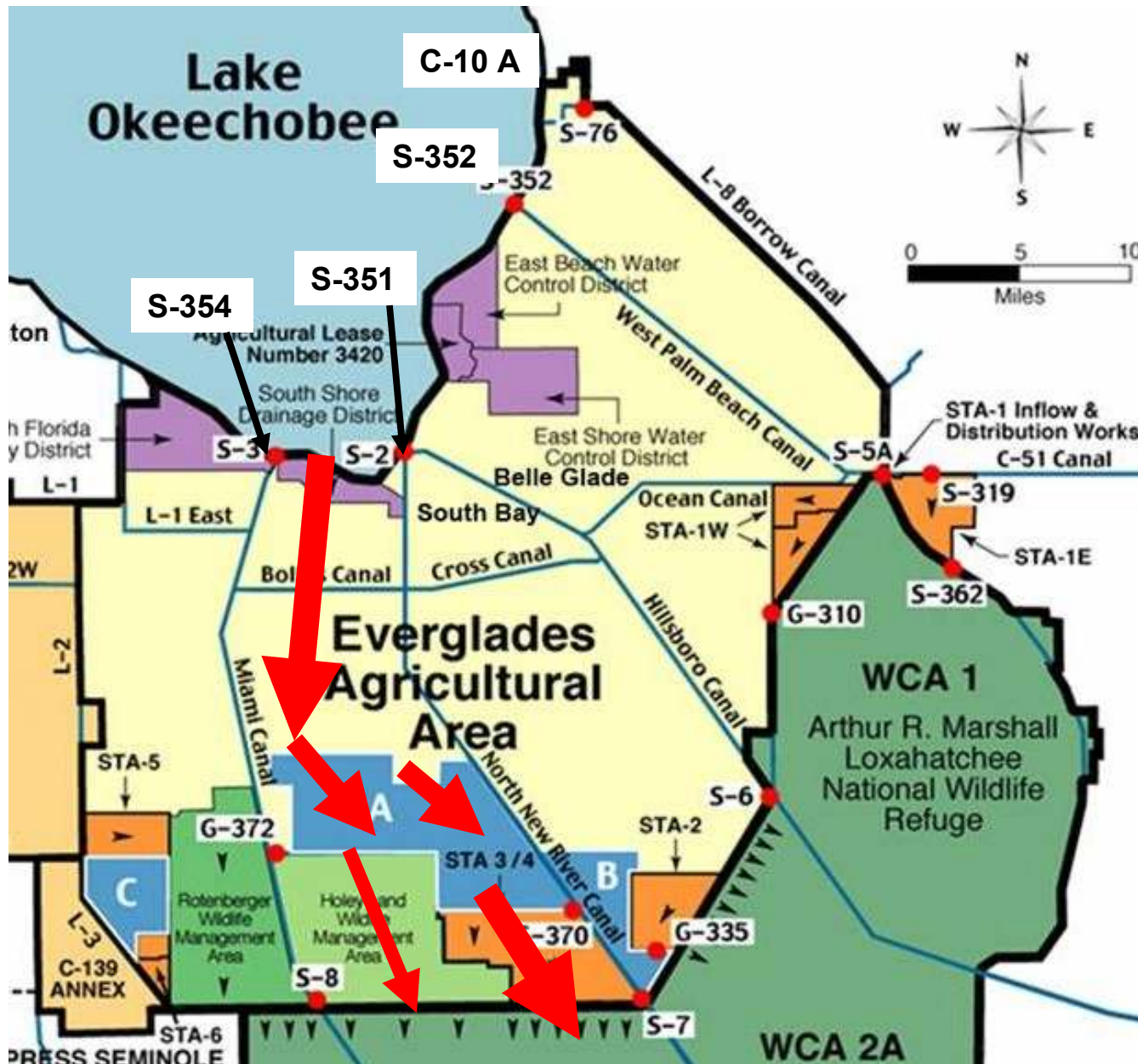


Historic, Current & Plan 6 Project Flow





Plan 6 Project – Stop destructive discharges to the Northern Estuaries and Restore the River of Grass

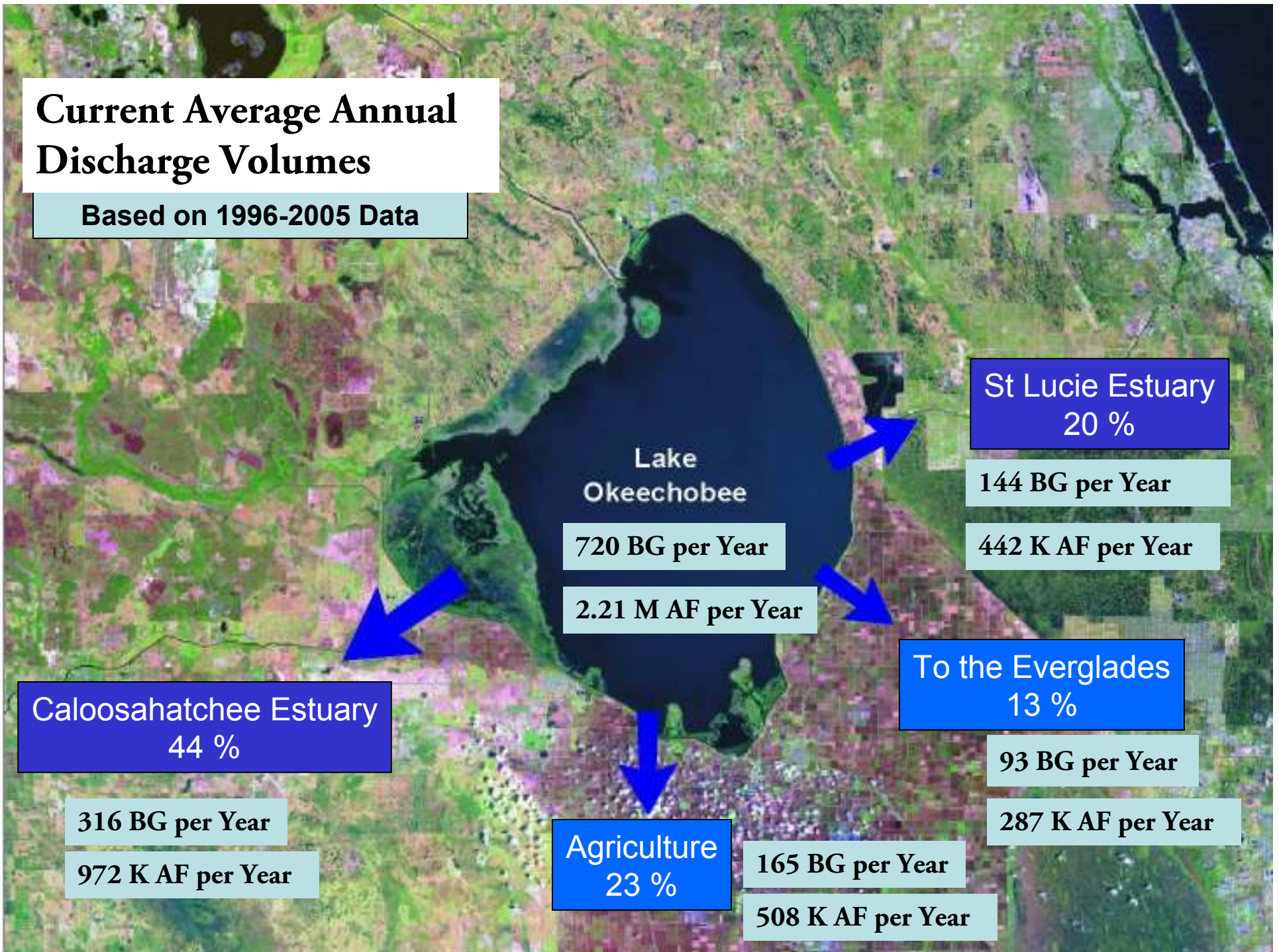


1. Becomes THE Primary outflow for Lake Okeechobee, not the Estuaries
2. Stops harmful discharge releases from Lake Okeechobee to the Northern Estuaries
3. Replaces the Lake Okeechobee ASR Project of CERP with a project of greater flow & capacity
4. Restores water flows south to the Everglades
5. Provides for healthy water levels in Lake Okeechobee
6. Maintains Water Quantity, Quality, Timing and Distribution for South Florida and Everglades Restoration

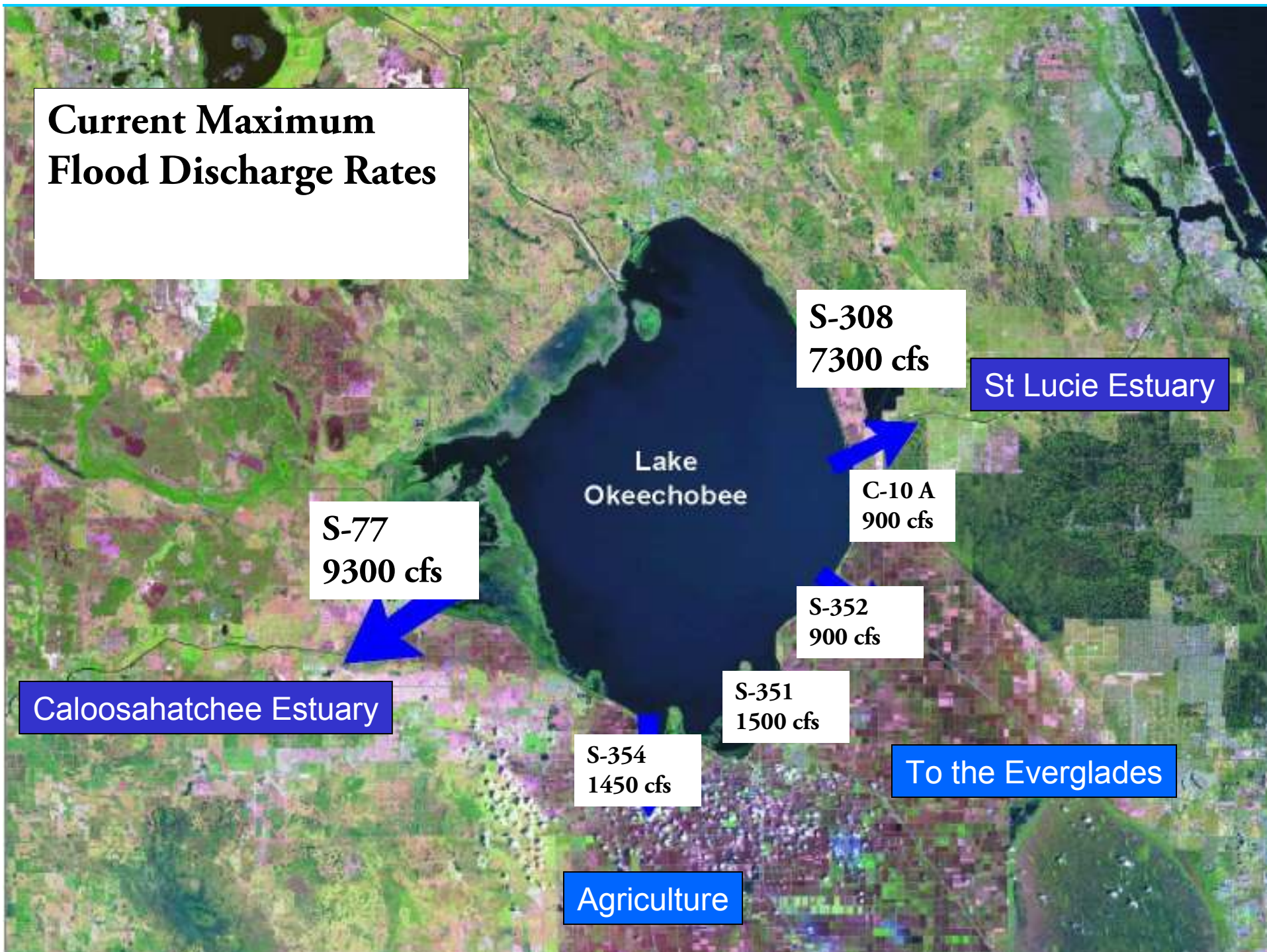
Plan 6 Project – Stop destructive discharges to the Northern Estuaries and Restore the River of Grass

Current Average Annual Discharge Volumes

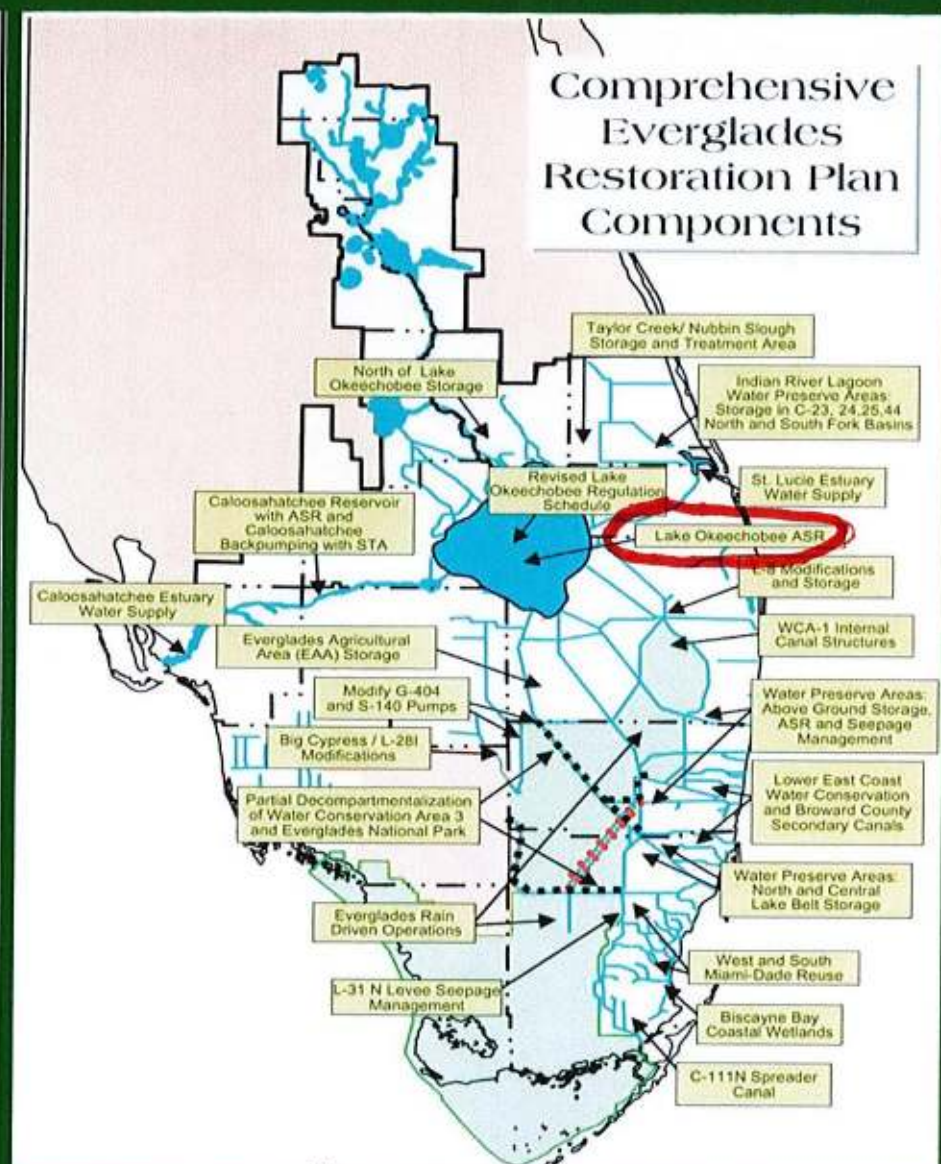
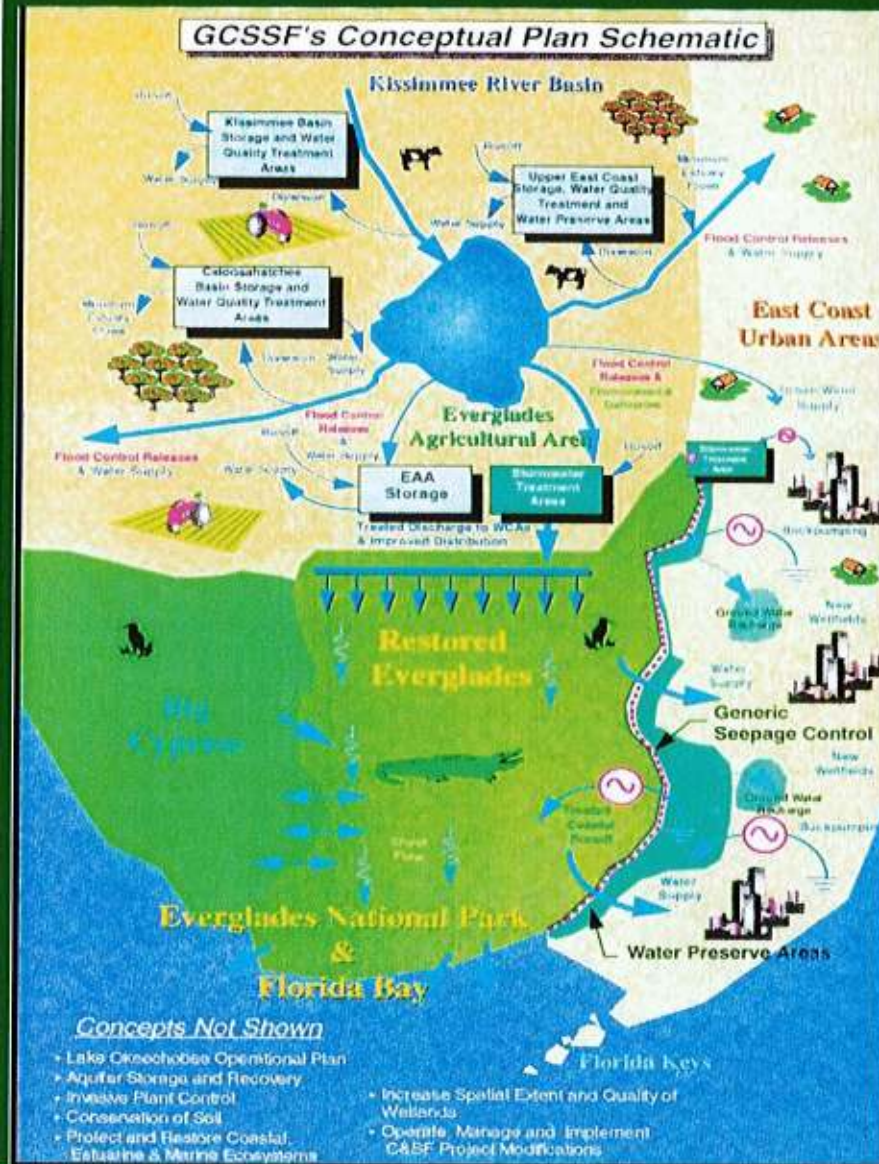
Based on 1996-2005 Data



Current Maximum Flood Discharge Rates



Early Conceptual Plans - Everglades Restoration



Governor's Com. For a Sustainable South FL, 1996.

C&SF Project Comprehensive Review Study, 1999.

**Current Average Annual
Discharge Volumes
Current Maximum Flood
Discharge Rates**

**Lake Okeechobee ASR Project-
200 wells – Proposed CERP**

1548 cfs

**S-308
7300 cfs**

**St Lucie Estuary
20 %**

442 K AF per Year

**C-10 A
900 cfs**

**S-352
900 cfs**

**To the Everglades
13 %**

287 K AF per Year

**S-351
1500 cfs**

**S-354
1450 cfs**

**Agriculture
23 %**

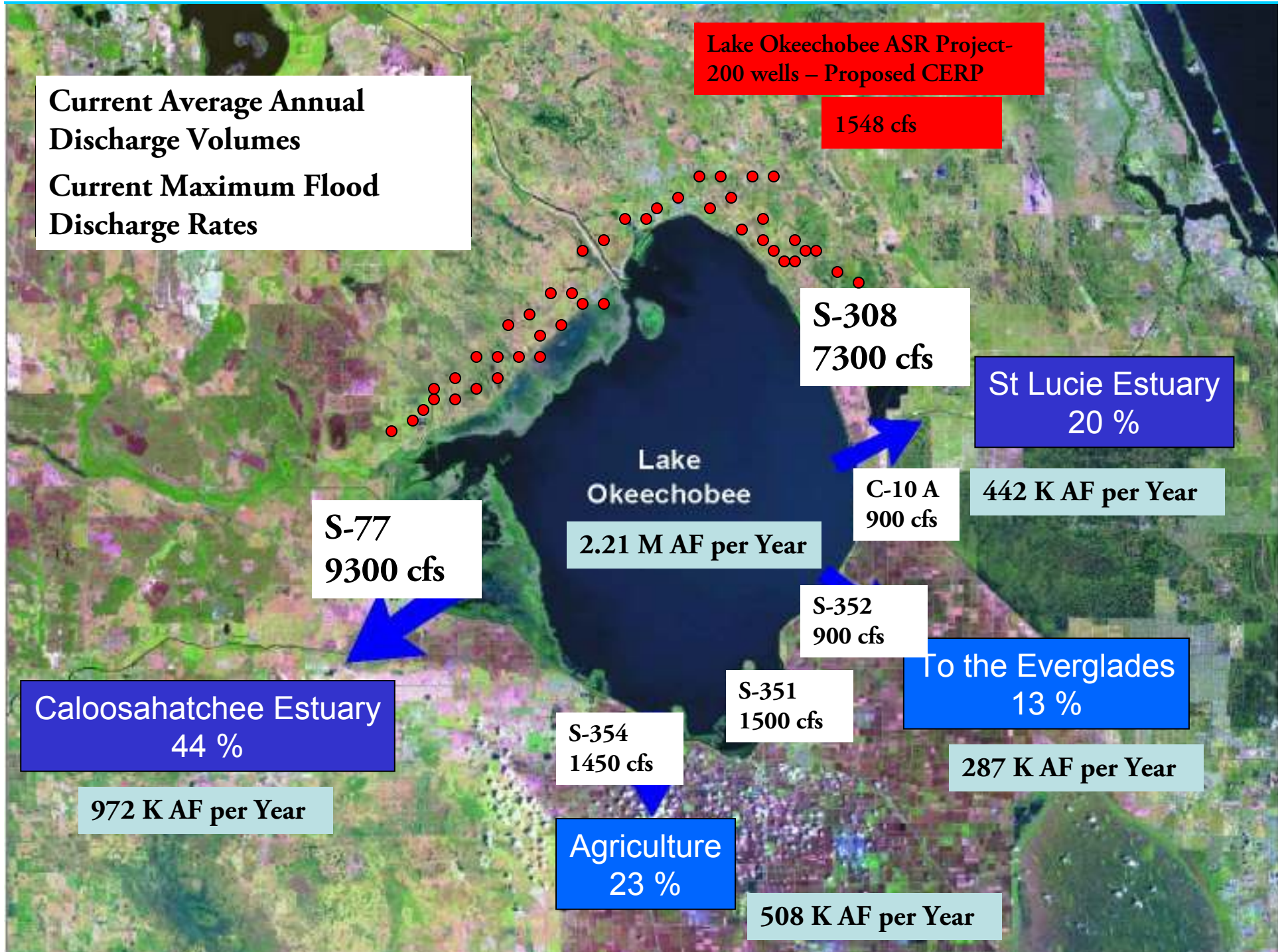
508 K AF per Year

**S-77
9300 cfs**

**Caloosahatchee Estuary
44 %**

972 K AF per Year

**Lake
Okeechobee
2.21 M AF per Year**



Reviving the River of Grass



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DISTRICT ACQUIRES 26,800 ACRES TO REVIVE THE RIVER OF GRASS

Background

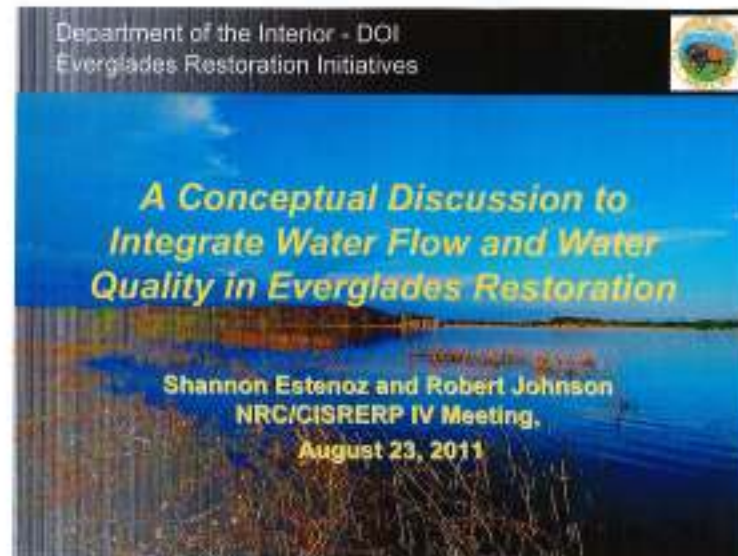
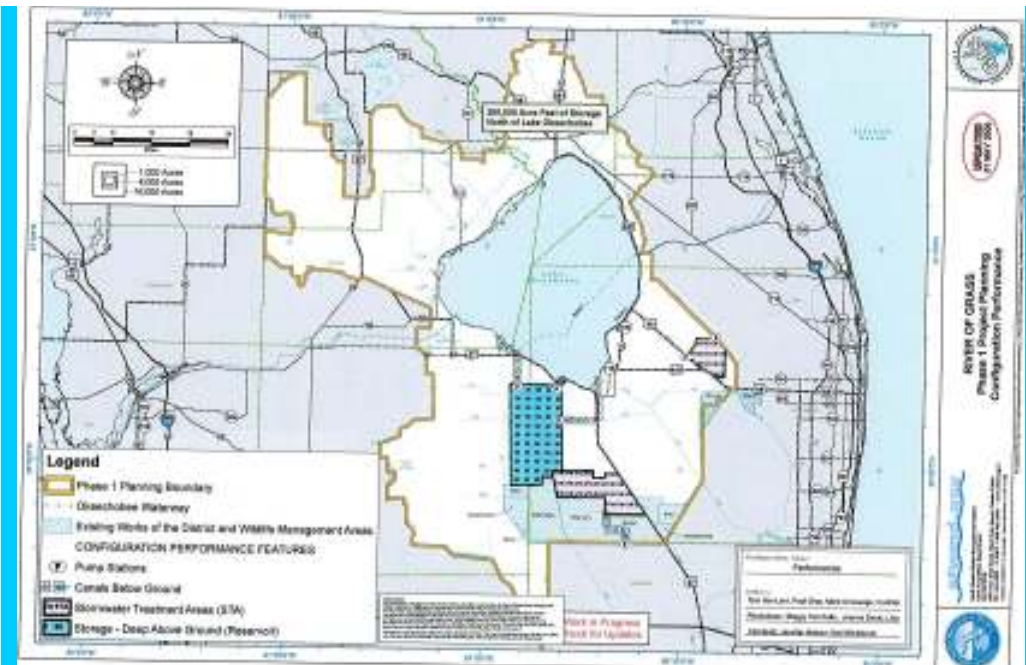
June 2008: Governor Charlie Crist announced that the South Florida Water Management District would begin negotiating an agreement to acquire as much as 187,000 acres of agricultural land owned by the United States Sugar Corporation for Everglades restoration. Acquiring the enormous expanse of real estate offers water managers the opportunity and flexibility to store and clean water on a scale never before contemplated to protect Florida's coastal estuaries and to better revive, restore and preserve the fabled River of Grass.

December 2008: Following extensive negotiations, due diligence and public deliberation, the South Florida Water Management District's Governing Board voted to accept the negotiated proposal to acquire more than 180,000 of agricultural land for \$1.24 billion, contingent upon financing and affordability.

May 2009: After gathering key input from the public, legislators and South Florida's communities and recognizing the nation's current economic climate, the South Florida Water Management District and U.S. Sugar Corporation amended the agreement providing for an initial purchase of close to 73,000 acres for \$536 million, with options to purchase the remaining 107,000 acres during the next ten years when economic and financial conditions improve.

August 2010: In light of continued economic impacts, a decline in District revenues and the need to address recent federal court orders related to Everglades restoration, the Governing Board approved on August 12, 2010, a second amended and restated agreement for purchase and sale of land from the U.S. Sugar Corporation. Under the modified purchase, the District will utilize \$197 million in cash on-hand to take ownership of 26,800 acres of strategically located land with high restoration potential while preserving the option to acquire 153,200 acres of additional lands, if future economic conditions allow.

36 Kissimmee
36 Lake Okeechobee
36 Everglades
36 Coastal Areas



Plan 6 Project – Stopping the Destructive Discharges to the Northern Estuaries and Restoring the River of Grass

The Plan 6 Project is based on the guidance as set forth in the *Department of Interior (DOI) Everglades Restoration Initiatives*, “*A Conceptual Discussion to Integrate Water Flow and Water Quality in Everglades Restoration*”, Shannon Estenoz and Robert Johnson, NRC/CISRERP IV Meeting, August 23, 2011 and specifically the basic Everglades Restoration concepts put forward by the Science Sub-Group Report, Minimum Plan, 1993 and the C&SF Restudy Recon Report, Plan 6, 1994. The concepts of the “Marshall Plan” as put forward by Arthur R. Marshall in 1981 were also considered as well as the components of the River of Grass Planning effort by the SFWMD known as “Reviving the River of Grass” which assembled and modeled 9 concept plans produced by stakeholder meetings and SFWMD staff 2008-2010. This effort was initiated in 2008 in anticipation of the State purchasing agricultural land south of Lake Okeechobee and making the “missing link” connection between the Lake and the Everglades while preventing the damaging releases of Lake Okeechobee water to the Northern Estuaries, St. Lucie River Estuary/Indian River Lagoon and the Caloosahatchee River Estuary.

The Plan 6 Project should build the capacity to move approximately 1.5 Million Acre Feet of water per year south from Lake Okeechobee to the Everglades with a maximum flow rate capacity of about 8,000 to 10,000 cubic feet per second (cfs) out of the Lake, storage of about 450,000 acre feet and water quality treatment through approximately 60,000 acres of Stormwater Treatment Areas. The Project should provide enough storage, conveyance and water quality treatment to prevent damaging discharges to the Northern Estuaries and restore the river of grass flows to the Everglades. The Project should provide water to the natural systems in the Everglades while continuing to meet existing water supply demands. The Project design should meet the current water quality requirements for outflows to the Everglades Protection Area. The operations and Water Control Plan for this Project should identify this project as THE primary outlet of water from Lake Okeechobee, moving water south through the Plan 6 Project instead of east and west to the Northern Estuaries through S-308 and S-77. Revisions to the current Lake Okeechobee Regulation Schedule would be made to accommodate this water control plan so that THE primary outlet for water from Lake Okeechobee would be south through the Plan 6 Project to the Everglades and not to the Northern Estuaries.

The Plan 6 Project is considered as a replacement project for the Lake Okeechobee ASR Project, the main component of Comprehensive Everglades Restoration Plan (CERP), which was proposed “to ensure waters for the Everglades, improve conditions in Lake Okeechobee and prevent damaging releases of freshwater to the Northern Estuaries”. The Lake Okeechobee ASR Project will not fulfill these purposes with the design capacity of 200 ASR wells across the top of Lake Okeechobee at 5 million gallons per day each or 1,548 cfs. The Plan 6 Project however will have the capacity of 8,000 to 10,000 cfs and will provide the quantity, quality, timing and distribution of water to move south from Lake Okeechobee while preventing the damaging discharges to the Northern Estuaries. It is also anticipated that the CERP Central Everglades Planning Project (CEPP) will be built as a 1st increment and that the Plan 6 Project can be considered as the 2nd increment of CEPP using featured components and the process.

The Plan 6 Project may require modification of structures such as S-354 and S-351 or building new structures such as spillways to handle a maximum flow capacity of water moving out of Lake Okeechobee south through the area between Miami Canal and North New River Canal. The Project may also require modification of the L-25 and L-20 portions of the Miami Canal and North New River Canal to handle maximum flow capacity. The Plan 6 Project may also include more features going south through WCA 3A, 3B, Tamiami Trail and ENP to Florida Bay.

The Plan 6 Project requires acquisition of approximately 54,000 acres of land north and south of the Bolles Canal (L-21) between Miami Canal and North New River Canal. Dynamic water storage, conveyance and treatment of water from the Lake Okeechobee outflows will be necessary in these areas. Modification of existing public facilities and lands including the A-1 and A-2 components, Stormwater Treatment Areas (STAs) 2, 3/4, 5 & 6, the Holeyland and Rotenburger Management Areas and other managed lands may be necessary to achieve the dynamic water storage, flow and treatment necessary for this Project.

It is recognized that these are preliminary design criteria that require more detailed analysis to formulate the final Plan 6 Project.

July 25, 2013



Everglades

National Park
Florida

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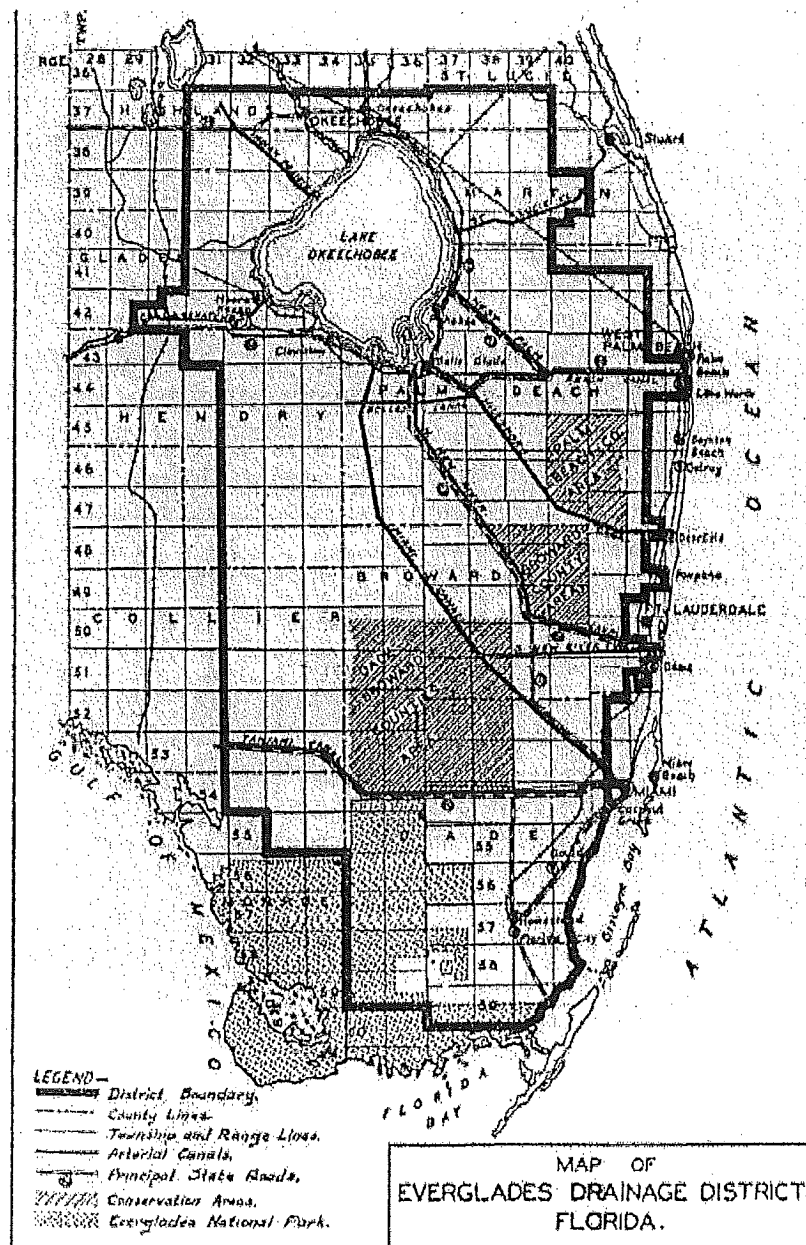
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Developing the Everglades





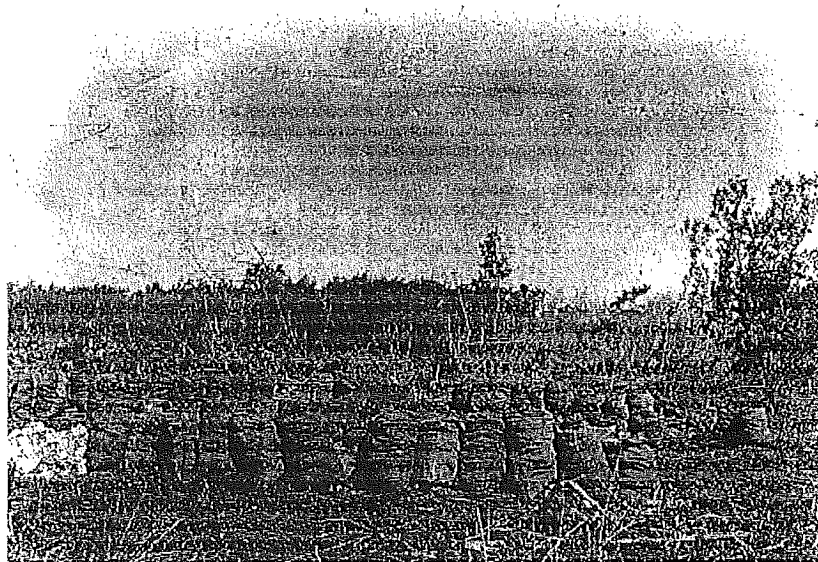
Early map of the Everglades drainage area.

Florida Manure project

Draining the Everglades

The notion of draining the vast wetland persisted into the 20th century. Expanded dredging efforts between 1905 and 1910 transformed large tracts from wetland to agricultural land. This abundance of "new" land stimulated the first of several south Florida land booms. Railroads constructed by entrepreneurs like Henry B. Plant and Henry M. Flagler made the region more accessible and attractive to tourists. By the 1920s visitors and new residents flocked to blossoming towns like Fort Lauderdale, Miami, and Fort Myers. As they arrived, developers cut more canals and built new roads. To ensure good ocean views, they removed mangroves from the shorelines and replaced them with palm trees. Little by little canals, roads, and buildings displaced native habitats.

The year 1948 marked an even greater change when Congress authorized the Central and South Florida Project. This involved the construction of an elaborate system of roads, canals, levees, and water-control structures stretching throughout South Florida. Constructed by the Army Corps of Engineers, and sponsored by the Central and Southern Flood Control District (later redesignated the South Florida Water Management District), the project purposes were to provide water and flood protection for urban and agricultural lands, a water supply for Everglades National Park, the preservation of fish and wildlife habitat, facilitate navigation and recreation, and the prevention of salt water intrusion. While the project still provides many of the intended benefits, the alteration of regional wetland areas, estuaries, and bays — combined with increasing population pressures and changing land uses — has significantly degraded the natural system.



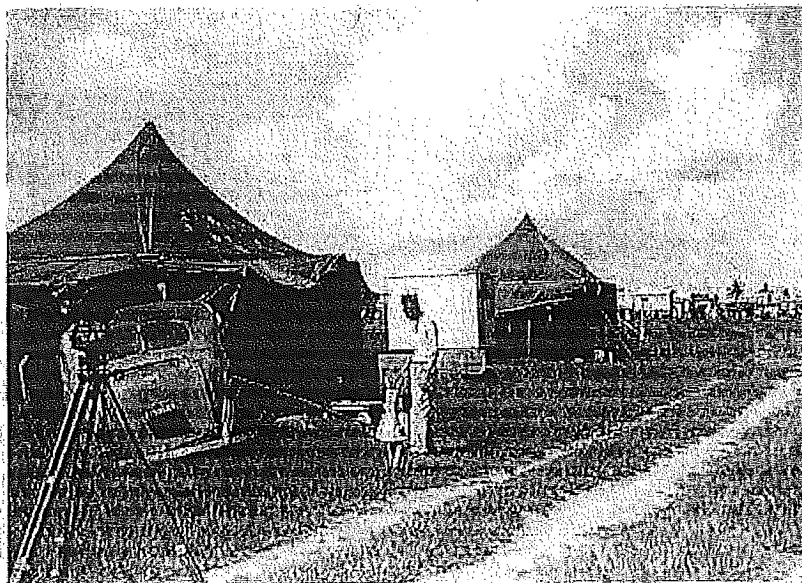
Bags of charcoal ready to be shipped to Key West.

Florida Manure Project

Early Communities

By 1910, 49 people lived in Flamingo and Cape Sable. Most were sugar cane farmers or made charcoal out of Buttonwood, which was then bagged and shipped to Key West. Beyond gaining cash from farming or charcoal sales, early settlers depended on hunting small game and fishing for food. At the turn of the 20th century hunting the abundant birds in the Everglades was a major source of cash income, as plume feathers became a popular addition to women's hats.

Life in Flamingo could be unpleasant. Leverett White Brownell, a naturalist, visited Flamingo in 1893. He described the village as 38 shacks on stilts, infested with fleas and mosquitos. He claimed to have seen an oil lamp extinguished by a cloud of mosquitoes. He also stated the flea powder was the "staff of life" and that the cabins were thickly sooted from the use of smudge pots. He added that tomatoes, asparagus, and eggplant were the principle crops.

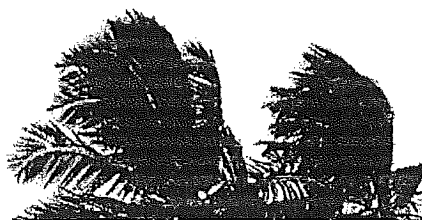


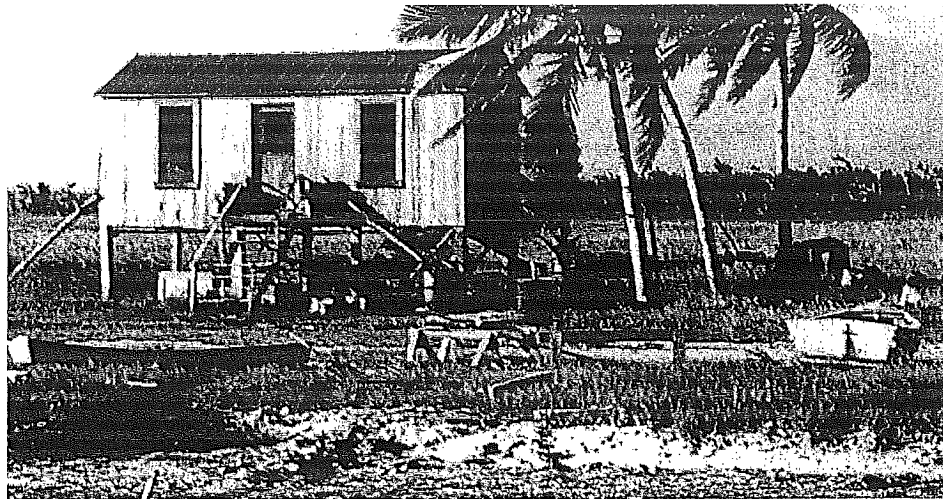
Early makeshift homes.

NPS EVER 18022

Chokoloskee, near present-day Everglades City, was first settled in the 1870s, although it had been the home of Calusa Indians for centuries in pre-Columbian times. It became the trade center for homesteaders who occupied the deserted Calusa sites scattered throughout the Ten Thousand Islands region. Over 140 people occupied Chokoloskee in 1910. Like Flamingo and Cape Sable, most were farmers or laborers.

In addition to the general unpleasantness that life in Everglades could bring, hurricanes were another challenge that early settlers had to contend with. The Everglades and Chokoloskee community was just recovering from a hurricane in 1909 when it was devastated by another, the worst on record, the following year. Only the highest ground of the old Calusa shell mound remained above water. Low-lying farm fields were salted by flood tides and most cisterns were polluted, a major tragedy in an area where few springs or wells existed. Many inhabitants of the outlying islands were forced to abandon their homesteads. The most infamous incident of the times, the vigilante murder of a local man suspected of several murders, occurred a few days after the hurricane. A fictionalized account of the event is told in the book *Killing Mister Watson* by Peter Matthiessen.





House on stilts.
NPS (EVER 17324)

Prosperity of a sort reached Everglades City in the 1920s when Barron Collier made it his headquarters for the building of the Tamiami Trail across south Florida. It served as the county seat of Collier County until 1960, when prosperity waned and county offices were moved to Naples. Neighboring Chokoloskee did not have a road until a causeway was built from the mainland in 1956.

Flamingo, still marking the end of the main park road, is now a park community with a campground, ranger station, marina and lodge. Chokoloskee, surrounded by park waters at the end of Highway 29, is still home to fishermen, with a few motels and a resort having been added for park visitors. Although the tiny cane farms and fishing shanties are gone, both areas maintain the tranquil beauty for which they are famous.

Did You Know?



The "high and dry" tree islands of the Everglades are called tropical hardwood hammocks. The park marks a significant edge of the northern limits of many subtropical plants and the southern limits of many temperate plants. This provides quite a unique and beautiful landscape.

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South Florida Water Management District

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Central Everglades Planning Project Moves Forward

SFWMD Governing Board supports next steps in a key Everglades restoration plan



West Palm Beach, FL — The South Florida Water Management District (SFWMD) Governing Board today voted unanimously to move forward the Central Everglades Planning Project (CEPP) by supporting the release of a draft report for public and agency review by the U.S. Army Corps of Engineers.

This step signals the District's continued partnership with the Corps in developing plans for key restoration projects that will direct more water south into the heart of the Everglades. Today's action was the first formal vote by the SFWMD as the local sponsor of this planning effort.

"This is one of many steps, but it is an important one that comes after extensive public participation and technical work," said Dan O'Keefe, Chair of the SFWMD Governing Board. "We continue to make progress with CEPP, which is a reflection of the ongoing commitment between the Corps and District to restore the Everglades."

The Governing Board's vote on CEPP is part of the federal process to deliver a technically sound plan, known as a Project Implementation Report, for a suite of restoration projects in the central Everglades to prepare for congressional authorization as required under the Comprehensive Everglades Restoration Plan (CERP). The vote today supported the release of the draft Project Implementation Report for public and agency review.

"Our shared commitment to completing a final report as expeditiously as possible is evident by the milestone we have reached today," said Col. Alan Dodd, U.S. Army Corps of Engineers Jacksonville District Commander. "I would like to applaud the District and our dedicated partners and stakeholders for remaining engaged and flexible in the planning process. Thanks to your dedicated efforts, we now have a draft report that can be released to the public for review."

The Central Everglades Planning Project will identify and plan for projects on land already in public ownership to allow more water to be directed south to the central Everglades, Everglades National Park and Florida Bay while improving the health of coastal estuaries.

The Corps is scheduled to officially publish the draft on Aug. 30 through a federal process for public review.

CEPP is part of the long-term solution for moving water south away from the northern coastal estuaries and into the heart of the Everglades and Everglades National Park. When this project is completed, approximately 210,000 acre-feet of water on an average annual basis will be captured and directed south where it can provide ecological benefits.

The SFWMD is fully integrated in the technical process of the planning effort, which is led by the Corps.

For more information on the plan, visit www.evergladesplan.org.

###

About the South Florida Water Management District

The South Florida Water Management District is a regional, governmental agency that oversees the water resources in the southern half of the state – 16 counties from Orlando to the Keys. It is the oldest and largest of the state's five water management districts. The agency mission is to manage and protect water resources of the region by balancing and improving water quality, flood control, natural systems and water supply. A key initiative is cleanup and restoration of the Everglades.

CENTRAL EVERGLADES PLANNING PROJECT | CEPP

FACTS & INFORMATION



JANUARY 2013

PURPOSE

The goal of the Central Everglades Planning Project is to deliver, within two years, a finalized plan, known as a Project Implementation Report (PIR), for a suite of restoration projects in the central Everglades to prepare for congressional authorization, as part of the Comprehensive Everglades Restoration Plan (CERP). The Central Everglades Planning Project will identify and plan for projects on land already in public ownership to allow more water to be directed south to the central Everglades, Everglades National Park and Florida Bay while protecting coastal estuaries. Public participation is a major component of this planning effort. A number of public workshops, sponsored by the South Florida Ecosystem Restoration Task Force's Working Group, are planned to receive input from the public and keep them informed and engaged as active participants.

BACKGROUND

While much progress has been made on the CERP, efforts to date have mostly been in areas outside of the central Everglades. The heart of the Everglades restoration effort is restoring a more natural quantity, quality, timing and distribution of water to the remaining portions of the central area of the historic Everglades, often referred to as the "River of Grass."

In October 2011, the Assistant Secretary of the Army (Civil Works), the Secretary of the Interior, the Governor of Florida, the Executive Director of the South Florida Water Management District and other senior principals agreed to initiate the planning effort of the CERP central Everglades components. Due to the desire to expeditiously complete the study, the Central Everglades Planning Project is part of the U.S. Army Corps of Engineers' National Pilot Program for Feasibility Studies.

STUDY APPROACH

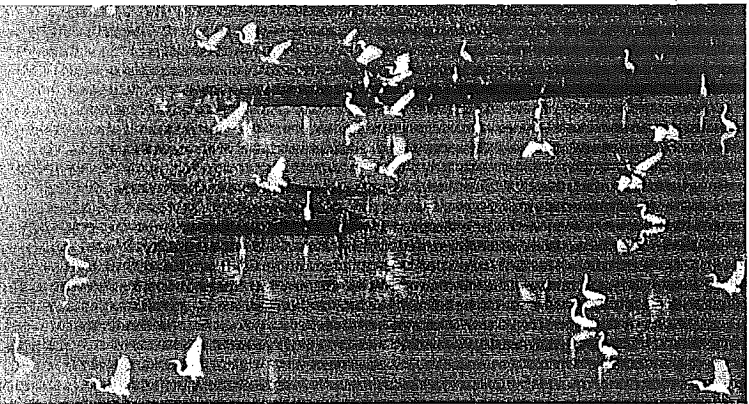
The Central Everglades Planning Project incorporates updated science and technical information gained over the last decade to identify a recommended plan and prepare a PIR for congressional authorization of the next generation of CERP projects. The pilot planning study process uses clearly defined decision points to make the process more predictable and more efficient, while reducing the current planning study process timeline. The U.S. Army Corps of Engineers (USACE) is leading this planning effort in partnership with the South Florida Water Management District (SFWMD). The SFWMD is fully integrated in the technical planning process and is leading modeling efforts for the study.

This study will develop the next increment of project components that focus restoration on more natural flows into and through the central and southern Everglades, re-establishing the hydroperiods and hydropatterns that characterize the "River of Grass" by:

- Increasing storage, treatment and conveyance of water south of Lake Okeechobee
- Removing and/or plugging canals and levees within the central Everglades
- Retaining water within Everglades National Park and protect urban and agricultural areas to the east from flooding

CENTRAL EVERGLADES PLANNING PROJECT | CEPP

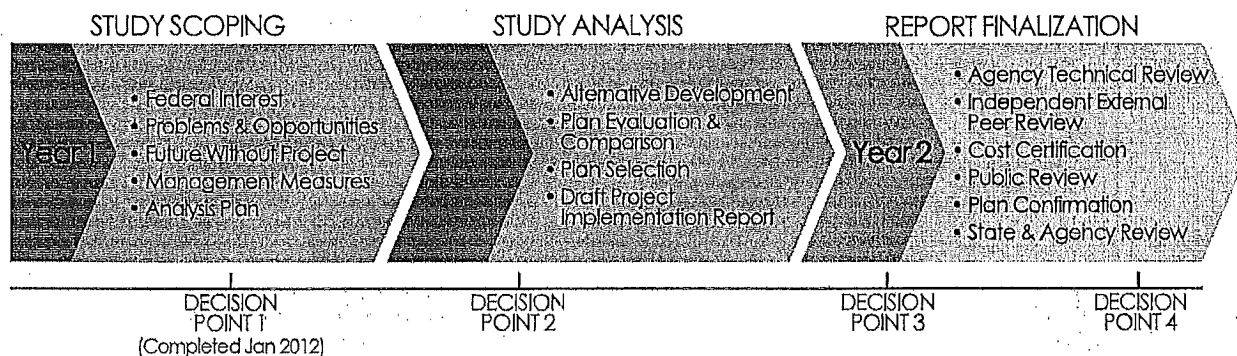
The CERP components identified to be studied as part of the Central Everglades Planning Project are: the Everglades Agricultural Area Storage Reservoir, Decompartmentalization of Water Conservation Area 3, Everglades National Park Seepage Management and Everglades Rain Driven Operations. These components are highly interdependent features of the recommended plan that are being formulated, optimized and implemented in a comprehensive and integrated manner. They make up the heart of the CERP and will lead to the next suite of restoration projects.



STUDY SCHEDULE

The schedule for the Central Everglades Planning Project utilizes the principles outlined in the U.S. Army Corps of Engineers' Planning Transformation Process. The project is currently in the study analysis phase.

CENTRAL EVERGLADES STUDY PROCESS



PROJECT DELIVERY TEAM

The USACE and SFWMD are the principal federal and non-federal sponsors for the CERP, and other environmental restoration efforts. Together, they are facilitating CERP Project Delivery Team (PDT) meetings for the Central Everglades Planning Project in parallel with public workshops sponsored by the South Florida Ecosystem Restoration Task Force's Working Group. PDT meetings enable federal, state, local agencies and tribal governments to provide input into the Central Everglades Planning Project.

FOR MORE INFORMATION



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Information on upcoming public workshops and related documents are available on the Task Force website at: www.sfstore.org/cepp/cepp.html

Information on the Central Everglades Planning Project and related project documents are available online at: www.evergladesplan.org/pin/projects/proj_51_cepp.aspx



US ARMY CORPS OF ENGINEERS





THE JOURNEY TO RESTORE AMERICA'S EVERGLADES

A partnership of the U.S. Army Corps of Engineers,
South Florida Water Management District and many
other federal, state, local and tribal partners.

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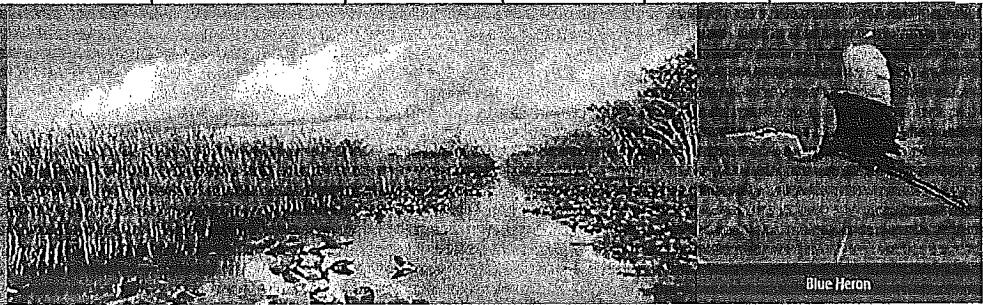
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Blue Heron

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Project & Study Documents

Public Meetings &
Workshops

CERP Projects

This page lists all CERP Projects and their corresponding sponsor. Only those projects or components as identified in the Comprehensive Plan are considered part of CERP.

View the list of CERP [Feasibility Studies](#).

View the list on [Non-CERP South Florida Restoration Projects](#)



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Restoration Plan (CERP)

View upcoming **CERP meetings
and workshops**

Project Name	Project Documents	Sponsor
Acme Basin & Discharge	View Documents	SFWMD
Aquifer Storage and Recovery Regional Study	View Documents	SFWMD
Big Cypress - L-28 Interceptor Modifications	View Documents	SFWMD
Biscayne Bay Coastal Wetlands	View Documents	SFWMD
Broward Co. Secondary Canal System	View Documents	SFWMD
Broward County Water Preserve Areas	View Documents	SFWMD
C-111 Spreader Canal	View Documents	SFWMD
C-4 Control Structures	View Documents	SFWMD
C-43 Aquifer Storage and Recovery Pilot	View Documents	SFWMD
C-43 Basin Aquifer Storage and Recovery	View Documents	SFWMD
Caloosahatchee Back-pumping with Stormwater Treatment	View Documents	SFWMD
Caloosahatchee River (C-43) West Basin Storage Reservoir Project	View Documents	SFWMD
Central Everglades Planning Project	View Documents	SFWMD
Central Lake Belt Storage Area	View Documents	SFWMD
Everglades Agricultural Area Storage Reservoirs	View Documents	SFWMD
Everglades National Park Seepage Management	View Documents	SFWMD

CERP Projects

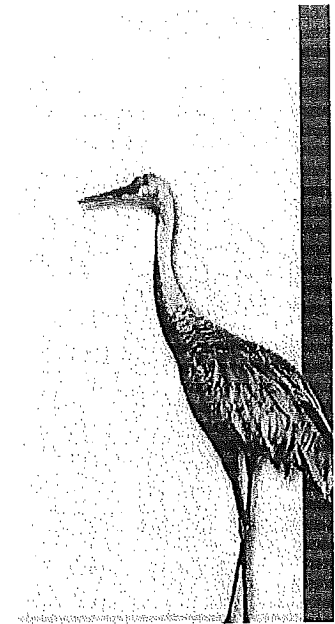
Florida Keys Tidal Restoration	View Documents	SFWMD
Flows to Northwest (NW) and Central Water Conservation Areas (WCA) 3A	View Documents	SFWMD
Henderson Creek-Belle Meade Restoration	View Documents	FDEP
Hillsboro Aquifer Storage and Recovery	View Documents	SFWMD
Hillsboro Aquifer Storage and Recovery Pilot	View Documents	SFWMD
Indian River Lagoon - South	View Documents	SFWMD
L-31N (L-30) Seepage Management Pilot	View Documents	SFWMD
Lake Belt In-Ground Reservoir Technology Pilot	View Documents	SFWMD
Lake Okeechobee Aquifer Storage and Recovery	View Documents	SFWMD
Lake Okeechobee Aquifer Storage and Recovery Pilot	View Documents	SFWMD
Lake Okeechobee Watershed	View Documents	SFWMD
Lakes Park Restoration	View Documents	Lee County
Loxahatchee National Wildlife Refuge Internal Canal Structures	View Documents	SFWMD
Loxahatchee River Watershed Restoration Project (formerly known as NPBC - Part 1)	View Documents	SFWMD
Loxahatchee River Watershed Restoration Aquifer Storage and Recovery	View Documents	SFWMD
Melaleuca Eradication and Other Exotic Plants	View Documents	SFWMD
Miccosukee Tribe Water Management Plan	View Documents	Miccosukee Tribe
Modify Hooley Land Wildlife Management Area Operation Plan	View Documents	SFWMD
Modify Rotenberger Wildlife Management Area Operation Plan	View Documents	SFWMD
North Lake Belt Storage Area	View Documents	SFWMD
PBC Agriculture Reserve Aquifer Storage and Recovery	View Documents	SFWMD
PBC Agriculture Reserve Reservoir	View Documents	SFWMD
Picayune Strand Restoration	View Documents	SFWMD
Restoration of Pineland and Hardwood Hammocks in C-111 Basin	View Documents	Miami-Dade County
Site 1 Impoundment	View Documents	SFWMD
South Miami-Dade Reuse	View Documents	Miami-Dade County
Strawzulla Wetlands	View Documents	SFWMD
Wastewater Reuse Technology Pilot	View Documents	SFWMD
Water Conservation Area 3 Decompartamentalization & Sheet	View Documents	SFWMD

CERP Projects

Flow Enhancement -Part 1 (Decond)		
Water Conservation Areas 2B Flows to ENP	View Documents	SFWMD
West Miami-Dade Reuse	View Documents	Miami-Dade County
Whisper Farm Wetlands Restoration	View Documents	Palm Beach County
WPA Conveyance	View Documents	SFWMD

Note: Adaptive Assessment & Management (AA&M) was first identified as a 'project' in the initially authorized list in the CERP and WRDA2000.

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THE JOURNEY TO RESTORE AMERICA'S EVERGLADES

A partnership of the U.S. Army Corps of Engineers,
South Florida Water Management District and many
other federal, state, local and tribal partners.

About Everglades Restoration

News & Events

Facts & Information

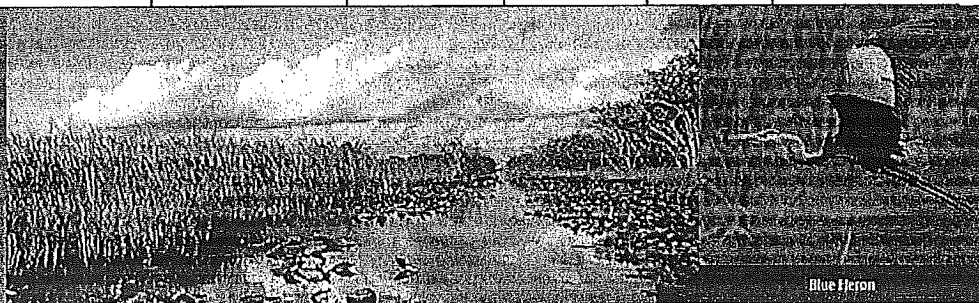
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Programs

Projects & Studies

Welcome to the official site of the
Comprehensive Everglades
Restoration Plan (CERP).



Blue Heron

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Non-CERP South Florida Ecosystem Restoration Projects

This page outlines several south Florida ecosystem restoration projects that were not authorized by the Water Resources Development Act of 2000 (WRDA), the Comprehensive Everglades Restoration Plan (CERP). They are however interrelated to the overall efforts to restore the south Florida ecosystem.

Cape Sable Seaside Sparrow Issues

Find out more about the Cape Sable Seaside Sparrow
View the Interim Operation Plan (IOP) [external link](#)

C-111 South Dade Project

C&SF Non-CERP

This project enhances freshwater wetlands and improved freshwater flows in the Southern Glades and Model Lands in southern Miami-Dade County. It improved the hydrology of Taylor Slough and coastal marshes of northeastern Florida Bay. The C-111 South Dade project includes a state expedited component. Preliminary design for the Frog Pond Impoundment is complete. This will reduce seepage from Taylor Slough to the lower C-111 canal system.

http://www.saj.usace.army.mil/Divisions/Planning/Branches/Environmental/Projects_C111.htm

Everglades Construction Project

The South Florida Water Management District (SFWMD) is responsible for projects which include but are not limited to the construction of stormwater treatment areas, hydropellet restorations, water diversions, and other improvements. The SFWMD is one of the state's five water management districts. It is the regional governmental agency responsible for water quality, flood control, water supply and environmental restoration in 16 counties, from Orlando to the Florida Keys. The Everglades Construction Project is one of these elements that made a contribution to the Everglades Program.

Florida Keys Water Quality Improvements Program (FKWQIP)

On December 21, 2001, Public Law 106-554 authorized the Corps of Engineers to provide technical and financial assistance to carry out projects for the planning, design and construction of treatment works to improve water quality in the Florida Keys National Marine Sanctuary. The primary purpose of this effort is to improve water quality in the Florida Keys, by implementation of several wastewater and stormwater master plans previously prepared for Monroe County and various municipalities within Monroe County.

Find out more about Florida Keys Water Quality Improvements Program

Herbert Hoover Dike Rehabilitation

Everglades and South Florida

View our fact sheets on the
Comprehensive Everglades
Restoration Plan (CERP)

Read the latest edition of the
Everglades Report

View a calendar of upcoming
CERP events and meetings

Critical Projects

Purpose is to develop specific
water quality related projects that
are essential to the restoration of
the Florida Everglades Everglades
Restoration Critical Projects.

Non-CERP South Florida Ecosystem Restoration Projects


The Corps of Engineers is strengthening the 143 mile dike that surrounds Lake Okeechobee. It is an integral part of the C&SF Project. Construction is now under way on the most vulnerable southeast section. The project is expected to span two decades.

Kissimmee River Restoration Project (KRR)

The KRR project is intended to restore over 40 square miles of river and floodplain ecosystem including the 43 miles of meandering river channel and 27,000 acres of wetlands. Restoration efforts will re-establish an environment conducive to the fauna and flora that existed there prior to the 1960s, when the river was dredged, straightened and widened to provide flood protection.


[View the Kissimmee River Restoration Project fact sheet.](#)

Lakeside Ranch STA - Part of the Taylor Creek /Nubbin Slough Storage and Treatment Area

 State of Florida

This project includes areas north of Lake Okeechobee and Taylor Creek/Nubbin Slough Reservoirs, the Lake Okeechobee Watershed Stormwater Treatment facilities, and modifications to the Lake Istokpoga Regulation Schedule (Highlands County tributary).

Long Term Plan for Achieving Water Quality Goals in the Everglades Protection Area Projects

 State of Florida

This is largely a State of Florida effort to ensure that all surface water discharges entering the Everglades Protection Area meet water quality standards, in accordance with Florida's Everglades Forever Act. There are many projects planned to achieve this, including the STAs. The Corps and others are partnering with the state to achieve these standards. The plan is revised in an adaptive manner to ensure new information is included.

Miami-Dade County Regional Canal Study

The purpose of the Miami-Dade County Regional Canal Study is to determine whether modifications should be made to the existing Central and Southern Florida Project to provide flood damage reduction and solutions to other related water resource problems within Miami-Dade County.


Modified Water Deliveries to Everglades National Park (MWD)

The overall purpose of the Modified Water Delivery to Everglades National Park project is to restore the natural hydrologic conditions in Everglades National Park, which was altered by the construction of roads, levees, and canals. There are four major components of MWD: 8.5 Square Mile Area Flood mitigation, Tamiami Trail Modifications, Conveyance and Seepage Control Features, and Combined Operation Plan. All four components are necessary to provide substantial flow increases to Everglades National Park.

[Learn more about the Tamiami Trail Project](#)

Seminole Big Cypress Reservation Water Conservation Plan


CRITICAL PROJECT

 Everglades and South Florida

The Seminole Big Cypress Reservation Water Conservation Plan is a comprehensive watershed management system designed to achieve environmental restoration on the Seminole Tribes Big Cypress Basin Reservation, the Big Cypress National Preserve, and the Everglades Protection Area. The project will reduce flood damage and promote water conservation. The Seminole Tribe will construct an expansion of conveyance canals in the eastern basin of the Big Cypress Reservation to transport water from Confusion Corner, where the SFVMD will deliver the Tribe's water entitlement through a new SFVMD pump station. The canals will carry the water to the Reservation's west basin, where the Corps will construct water storage cells and water resource areas.

http://www.saj.usace.army.mil/Divisions/Planning/Branches/Environmental/Projects_Critical.htm

West Palm Beach Canal/Stormwater Treatment Area 1-E

 C&SF Non-CERP

This project provides flood control, water quality and water supply to the C-51 basin in Palm Beach County. One component is Stormwater Treatment Area 1-East (STA

8/20/13

Non-CERP South Florida Ecosystem Restoration Projects

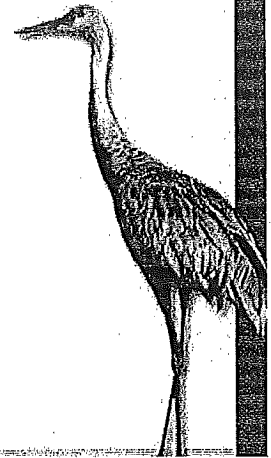
- 1E). This is complete, but repairs are needed in one area of the project for it to be fully functional. These repairs will be made by the Corps of Engineers in 2009 and 2010.

Related Links

- [View CERP Projects](#)
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quick facts on...

Northern Everglades & Estuaries Protection Program

MARCH 2009

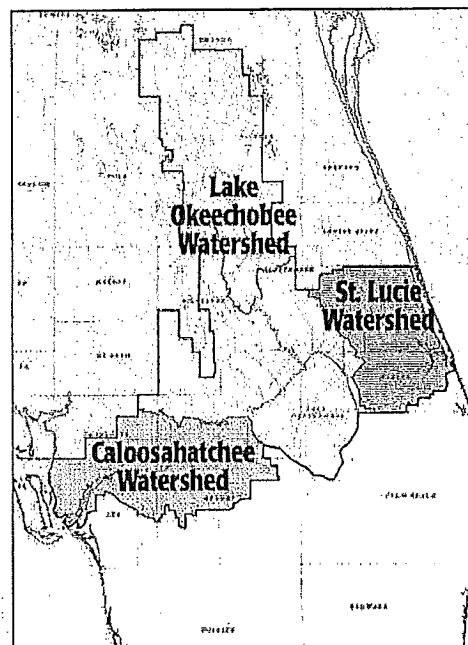
The South Florida Water Management District is a regional, governmental agency that oversees the water resources in the southern half of the state. It is the oldest and largest of the state's five water management districts.

Our Mission is to manage and protect water resources of the region by balancing and improving water quality, flood control, natural systems and water supply.

Protecting the Northern Everglades & Estuaries

Underscoring the State of Florida's commitment to restoring the Greater Everglades Ecosystem, the Florida Legislature in 2007 expanded the Lake Okeechobee Protection Act to strengthen protection for the Northern Everglades by restoring and preserving Lake Okeechobee and the Caloosahatchee and St. Lucie rivers and estuaries. The Northern Everglades & Estuaries Protection Program:

- Recognizes that the Lake Okeechobee, Caloosahatchee and St. Lucie watersheds are critical water resources of the State.
- Builds upon and consolidates numerous restoration activities into a comprehensive approach.
- Expands the use of the Save Our Everglades Trust Fund to include Northern Everglades restoration and extends it through 2020.



Benefits to the Ecosystem

The Northern Everglades and Estuaries Protection Program recognizes the importance and connectivity of the entire Everglades ecosystem both north and south of Lake Okeechobee. Implementation of this program will improve the quality, quantity, timing and distribution of water to the natural system and re-establish salinity regimes suitable for maintaining healthy, naturally diverse and well-balanced estuarine ecosystems. The health of the Northern Everglades will be enhanced by improving land management to reduce nutrient run-off, by constructing treatment wetlands to improve water quality and by completing water storage projects to better connect, manage and distribute water to the natural system.



Northern Everglades Projects and Plans

The Lake Okeechobee Watershed Construction Project Phase II Technical Plan

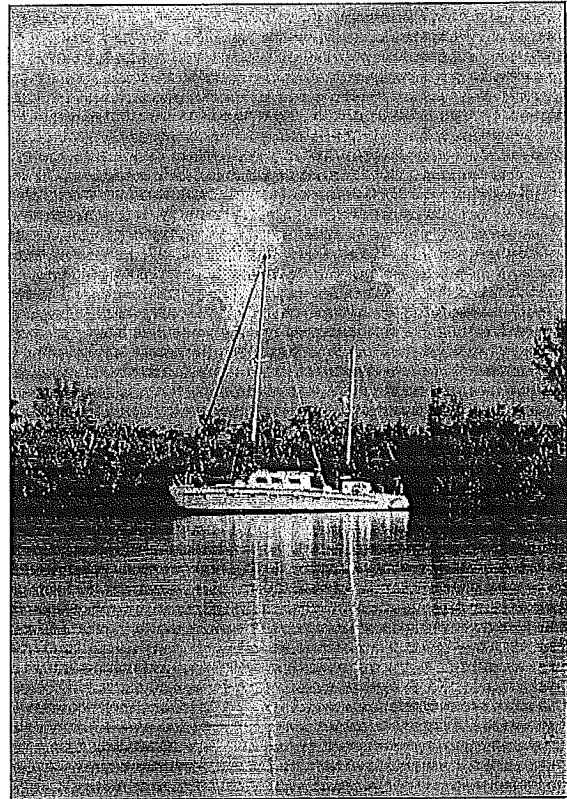
The Plan identifies projects and urban and agricultural best management practices needed to achieve water quality targets for the lake. In addition, it includes projects for increasing water storage north of Lake Okeechobee to achieve healthier lake levels and reduce harmful discharges to the Caloosahatchee and St. Lucie rivers and estuaries. The Plan was delivered to the Florida Legislature on February 1, 2008.

St. Lucie River and Caloosahatchee River Watershed Protection Plans

Each River Watershed Protection Plan:

- Includes a construction project, pollutant control program, and research and water quality monitoring program.
- Identifies the best combination of watershed storage projects and water treatment projects needed to help improve the quality, timing and distribution of water in the natural system.
- Incorporates agricultural and urban best management practices to reduce pollutants and best available "green technologies" to help reduce nutrients and improve water quality.
- Builds upon existing and planned programs and projects, and successfully consolidates previous restoration efforts.

The State, in cooperation with local governments, submitted the Caloosahatchee River and St. Lucie River Watershed Protection Plans to the Florida Legislature on January 1, 2009.



JR04/03/09

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West Palm Beach, FL 33416-4680

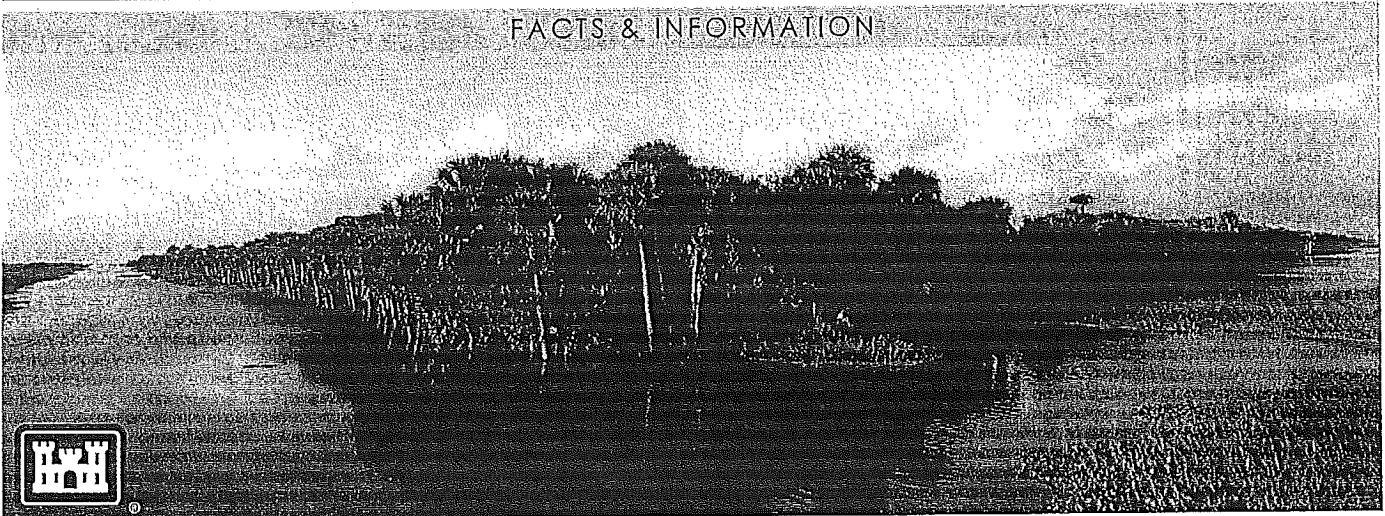
SERVICE CENTERS

Big Cypress Basin/Naples
239-263-7615
Broward
954-713-3200
Florida Keys (Plantation Key)
305-853-3219 or 800-464-5067
Lower West Coast
239-338-2929 or 800-248-1201

Martin/St. Lucie
772-223-2600 or 800-250-4100
Miami-Dade
305-377-7274 or 800-250-4300
Okeechobee
863-462-5260 or 800-250-4200
Orlando
407-858-6100 or 800-250-4250
Palm Beach County
561-682-6000 or 800-432-2045

INDIAN RIVER LAGOON - SOUTH | IRL-S

FACTS & INFORMATION



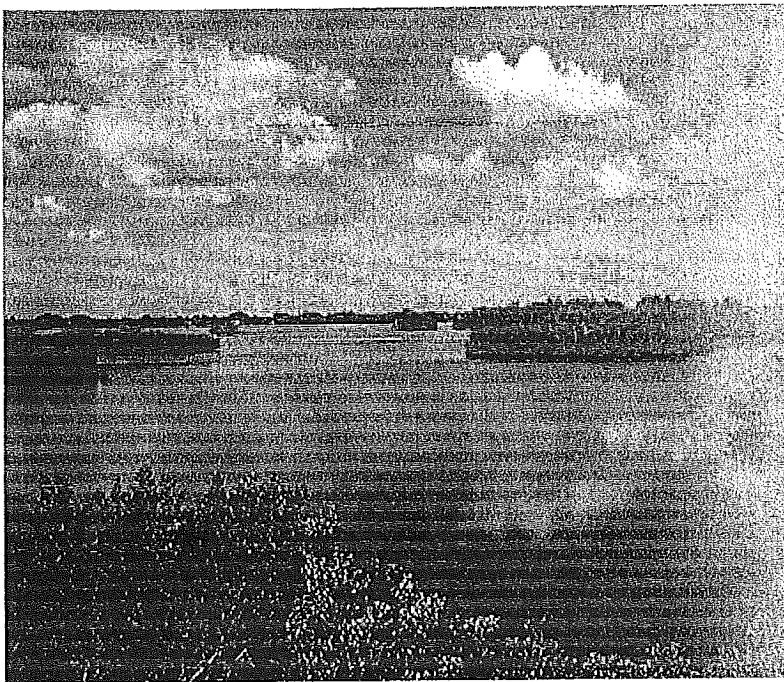
AUGUST 2013

RESTORING A NATIONAL ESTUARINE TREASURE

The Indian River Lagoon and St. Lucie Estuary in Martin County are two of the country's most productive and most threatened estuaries. Home to more than 4,300 species of plants and animals, and supporting an annual economic contribution of more than \$730 million, the lagoon region will benefit from careful restoration and protection of these water bodies.

The lagoon and estuary have suffered from altered water flow patterns and degraded water quality. In recent years, excessive rains required additional floodwater releases to the estuary from Lake Okeechobee. These fresh water releases, combined with large volumes of stormwater runoff, introduced contaminants and altered salinity levels, stressing the estuary's sensitive ecosystem. Over time, neighborhoods and farms emerged around the estuary's 827-square mile watershed. Outdated stormwater management systems and runoff from fertilizers caused both fresh water and pollutants to enter the estuary and lagoon.

The Indian River Lagoon-South (IRL-S) Restoration Project is now under way to reverse the damaging effects of pollution and unnaturally large fresh water discharges into these ecologically vital water bodies. The delicate balance of fresh and salt water in the lagoon and estuary will be restored, polluted water will be treated and degraded habitats will be revitalized.



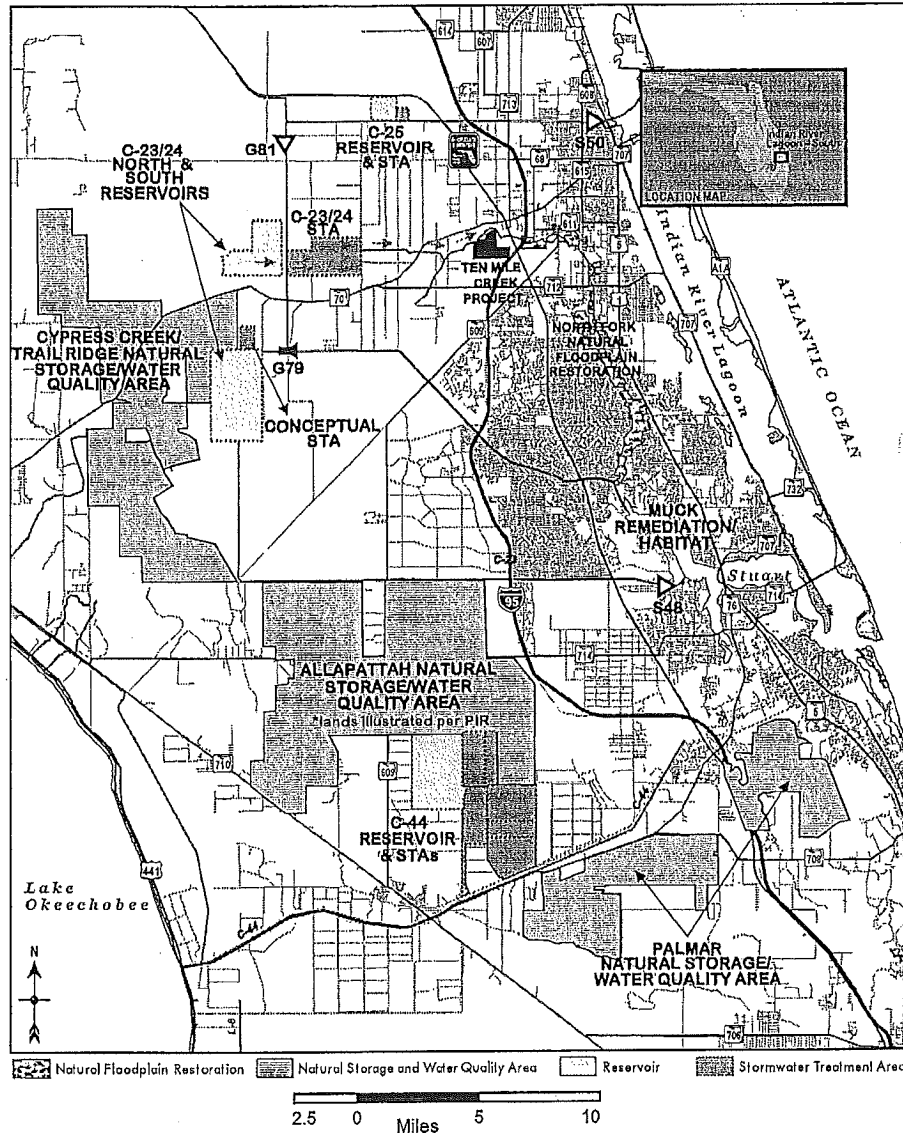
FEATURES AND BENEFITS:

- 12,000 acres of above ground storage
- 9,000 acres of manmade wetlands
- 90,000 acres of natural areas, including 53,000 acres of restored wetlands providing additional water storage
- 90 acres of artificial submerged habitat created for aquatic vegetation
- 922 acres of submerged aquatic vegetation restored
- 7.9 million cubic yards of removed muck
- 41 percent long-term reduction in phosphorus
- 26 percent long-term reduction in nitrogen
- 2,650 acres of benthic habitat created in St. Lucie River and Estuary
- 889 acres of restored oyster habitat
- \$6.1 million in improved agricultural productivity through improved fresh water supplies

INDIAN RIVER LAGOON - SOUTH | IRL-S

PROJECT COMPONENTS LOCATION MAP

The Indian River Lagoon-South Project employs a regional approach to address the Martin and St. Lucie County portions of the lagoon. The plan identifies six features that will work together to protect and restore the lagoon and estuary.



C-44 BASIN COMPONENTS

- C-44 – Reservoir
- C-44 – Stormwater Treatment Area
- Palmar Complex – Natural Storage and Water Quality Area

C-23/24 BASIN COMPONENTS

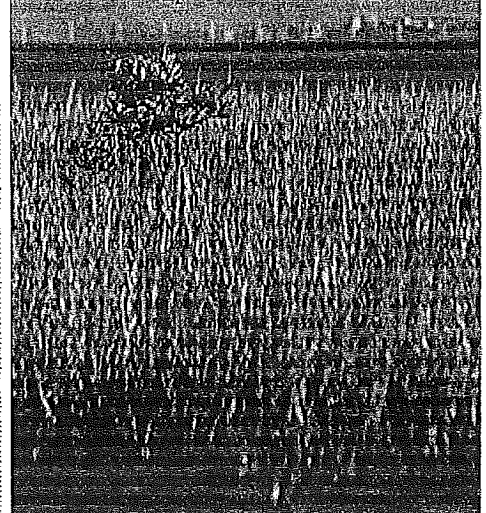
- C-23/24 – North and South Reservoirs
- C-23/24 – Stormwater Treatment Area
- Allapattah, Cypress Creek and Trail Ridge Complex – Natural Storage and Water Quality Area

C-25, NORTH FORK AND SOUTH FORK BASIN COMPONENTS

- C-25 – Reservoir
- C-25 – Stormwater Treatment Area
- North Fork Natural Floodplain Restoration Muck Remediation and Artificial Habitat

Based on the Project Implementation Report approved by Congress in 2007, the IRL-S project is expected to include the following components:

- Construction and operation of four new above ground reservoirs and their connecting canals, control structures, levees and pumps to capture water from the C-44, C-23, C-24 and C-25 canals for increased storage.
- Construction and operation of three new stormwater treatment areas to reduce sediment, phosphorus and nitrogen going to the St. Lucie River estuary and the lagoon. STAs are planned for each of the C-44, C-23/24 and C-25 basins.
- Restoration of the upland/wetland mosaic and habitat with ditch plugging, berm construction, and periodic fire maintenance at three locations.
- Redirection of water from the C-23/24 basin to the north fork of the St. Lucie River attenuating fresh water flows to the estuary.
- Muck removal from the north and south forks of the St. Lucie River and the middle estuary.
- Oyster shell, reef balls and artificial submerged aquatic vegetation near muck removal sites will be added for habitat improvement.



C-44 CONSTRUCTION SEQUENCE

C-44 RSTA CONSTRUCTION SEQUENCE

Contract 1 (USACE)	Contract 2 (USACE)	Contract 3 (USACE)	Communication Tower (SFWMD)*
<ul style="list-style-type: none"> Intake Canal Access Roads C-133A and C-133 Drainage Canal and Outlet Removing culvert under Citrus Boulevard for C-133 canal** New bridge over intake canal for Citrus Boulevard** Turning lanes on Citrus Boulevard for main project access road** 	<ul style="list-style-type: none"> Reservoir Reservoir seepage canals Reservoir discharge tower and canal Pump station 	<ul style="list-style-type: none"> STA cells STA distribution canals STA collection canals STA discharge to C-44 canal 	<ul style="list-style-type: none"> Communication tower Communication equipment Support buildings

* No physical overlap of staging or construction footprints with USACE CNT-1, which is under construction at the same time as the communication tower. Construction of the communication tower will be completed under multiple contracts.

** Portions funded by SFWMD and constructed by USACE.

PLANNED CONSTRUCTION PERIOD

Planned Construction																															
FY 2012		FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020	
Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2				

SFWMD RELOCATION CONSTRUCTION SEQUENCE

FPL Distribution Efforts	TIWCD temporary Configuration	FPL Transmission Efforts	TIWCD Permanent Pump Station
<ul style="list-style-type: none"> Relocate C-44 Canal crossing power line Abandon Via Tropical power line Relocate Bar B Ranch power line and abandon Minton distribution line 	<ul style="list-style-type: none"> Temporary pump installation Permanent canal construction 	<ul style="list-style-type: none"> STA distribution canals STA collection canals STA discharge to C-44 canal 	<ul style="list-style-type: none"> Permanent pump installation

SFWMD RELOCATION ESTIMATED CONSTRUCTION PERIOD

FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

COMPLETED COMPONENTS

- Tree clearing phase I (SFWMD)
- Tree clearing phase II (SFWMD)
- TIWCD temporary reconfiguration and testing (SFWMD)
- Remove all citrus trees from unoccupied lands
- Remove all remaining citrus trees
- Pump installation Minute Maid Road bridge and drainage relocation.




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quick facts on...

Everglades Restoration Progress

JANUARY 2013

BACKGROUND:

America's Everglades was once a vibrant, free-flowing River of Grass, extending from the Kissimmee Chain of Lakes near Orlando to the southern tip of the peninsula at Florida Bay. Over time, significant development allowed for population and economic growth. The construction of canals and water control structures, along with increased water needs due to urban and agricultural expansion, also contributed to unintended environmental consequences.

Recognizing that a healthy ecosystem is vital to a healthy economy, a number of initiatives are under way to improve water quality, increase storage and reestablish more historic flows.

The South Florida Water Management District is a regional, governmental agency that oversees the water resources in the southern half of the state. It is the oldest and largest of the state's five water management districts.

Our Mission is to manage and protect water resources of the region by balancing and improving water quality, flood control, natural systems and water supply.

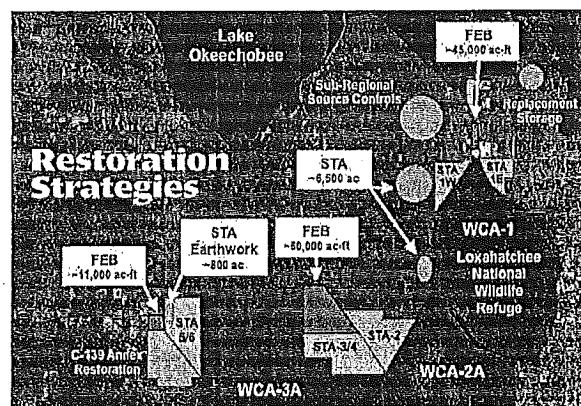
Improving Water Quality

Since 1994, the State of Florida has Invested more than \$1.8 billion toward lowering phosphorus levels in Everglades-bound waters through a combination of nutrient source controls and construction projects. Farming Best Management Practices (BMPs) prevent or reduce phosphorus in discharges at the source, and Stormwater Treatment Areas (STAs) use "green technology" to remove excess phosphorus.

- Five Everglades STAs are operational with an effective treatment area of 57,000 acres. In Water Year 2012, these constructed wetlands treated more than 700,000 acre-feet of water, reducing phosphorus loads by 83 percent. To date, the STAs have treated more than 12.3 million acre-feet of water and have retained 1,560 metric tons of phosphorus.
- Nearly 12,000 acres of effective treatment area were completed in 2012. These STA expansions will allow greater volumes of water to be routed through the shallow, freshwater marshes.
- Improved farming methods on 640,000 acres of agricultural lands south of Lake Okeechobee have resulted in annual average phosphorus reductions greater than 50 percent, more than twice the amount required by State law.
- To date, BMPs and STAs together have prevented approximately 4,100 metric tons of phosphorus from entering the Everglades.
- **Restoration Strategies** - In June 2012, the State of Florida and the U.S. Environmental Protection Agency reached consensus on strategies for further improving Everglades water quality:
 - The SFWMD will create more than 6,500 acres of new stormwater treatment areas and 110,000 acre-feet of additional water storage through construction of flow equalization basins (FEBs). These impoundments capture runoff during storm events and provide a more steady flow of

water to the STAs, helping to maintain desired water levels needed to achieve optimal performance.

- Additional source controls will also be implemented, and a science plan will ensure continued research to further improve STA performance.
- Design and construction will be completed in three phases over a 12-year timeframe, with completion set for 2024.
- Contracts have been awarded for the design of the A-1 FEB and design/build of the L-8 FEB.

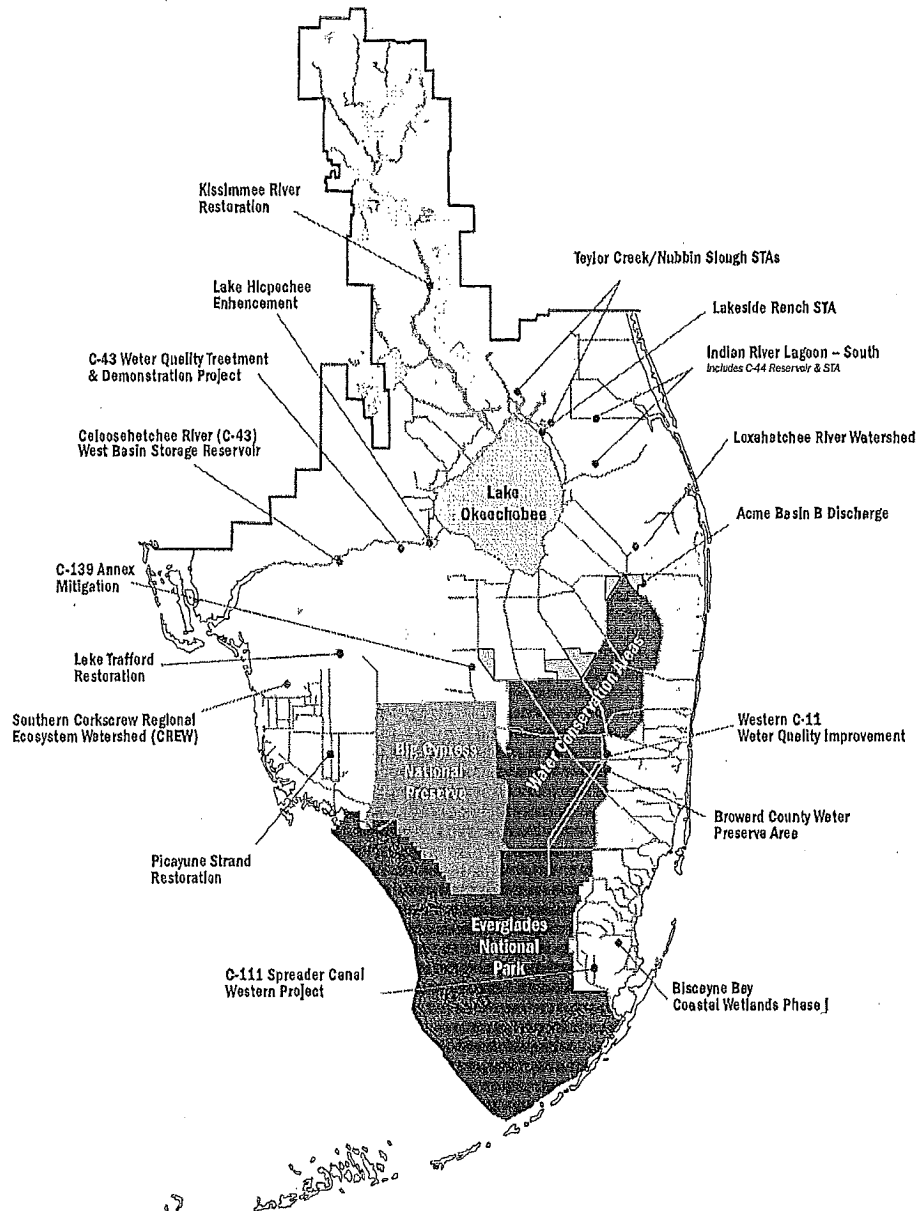


- The **Acme Basin B Discharge Project** is complete. It is improving Everglades water quality by diverting urban stormwater runoff west into the Section 24 Impoundment for peak flow attenuation. The project included construction of two new pump stations and improvements to the C-1 canal.
- The **Western C-11 Water Quality Improvement Critical Restoration Project** is also complete. It has improved water quality in the Water Conservation Areas with a new divide structure that separates seepage water from urban runoff coming from the Western C-11 drainage basin and a new pump station (S-9A) that slowly pumps low-phosphorus seepage waters back to the Everglades.
- The **C-139 Annex Mitigation Project** is a planned habitat restoration project that will return more historic Everglades conditions to 15,000 acres of former citrus grove and help improve water quality.



Highlighted Restoration Projects

The **Central Everglades Planning Project** is utilizing new science and advanced planning tools to develop the initial increment of project features that provide for storage, treatment and conveyance of additional freshwater south from Lake Okeechobee, removal of canals and levees in Water Conservation Area 3 and incorporate seepage management features to retain water within the natural system. These projects make up the heart of CERP aimed at restoring more natural quantity, quality, timing and distribution of water flows to the remaining portions of the *River of Grass*. The USACE is the lead on this accelerated planning process.



- The **Biscayne Bay Coastal Wetlands Phase I** project will restore natural water flows to Biscayne Bay and Biscayne National Park, improving salinity distribution near the shoreline. This will reestablish productive nursery habitats for shrimp, shellfish and near-shore habitat.
 - The Project Implementation Report and Chief of Engineers Report have been completed and submitted to Congress for authorization in the next WRDA.
 - The SFWMD completed construction of the Deering Estate Flow-Way component and has constructed 4 of the 10 culverts planned for the L-31 East component.

- The **C-111 Spreader Canal Western Project** will help restore more natural freshwater flows and levels in Taylor Slough, Model Lands and Southern Glades with direct benefits to Everglades National Park and Florida Bay. The project includes pump stations, culverts, detention areas, spreader canals and water control structures.
 - The Project Implementation Report and Chief of Engineers Report have been completed and submitted to Congress for authorization in the next WRDA.
 - The SFWMD has implemented most of the project features. Construction of the Frog Pond Detention Area and Aerojet Detention Area was completed in 2012.

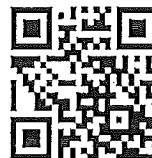
Protecting the Lake and Estuaries

Passed by the Florida Legislature In 2007, the Northern Everglades and Estuaries Protection Program promotes a watershed approach to protecting Lake Okeechobee and the Caloosahatchee and St. Lucie rivers and estuaries. Protection plans (updated every three years) include a mix of both water quality and water storage initiatives.

- **Regulatory and cooperative source control** programs have been demonstrated to be cost-effective strategies for reducing nutrients.
 - Approximately 1.8 million acres (64%) of agricultural lands in the Northern Everglades are enrolled in the Florida Department of Agriculture and Consumer Services' (FDACS) voluntary BMP program.
 - Complementary source control programs are being implemented by the SFWMD, FDACS and the Florida Department of Environmental Protection (FDEP) using a phased approach. It is anticipated that SFWMD will begin rulemaking and technical workshops in 2013.
- The construction of three regional Stormwater Treatment Areas is expected to reduce the average phosphorus load to Lake Okeechobee by approximately 26 metric tons per year when fully operational.
 - The **Lakeside Ranch STA** involves construction of a 2,700-acre STA adjacent to Lake Okeechobee in western Martin County. The project has been divided into two phases, STA North and STA South. The first phase (STA North and S-650) was completed in 2012.
 - **Taylor Creek/Nubbin Slough STAs** are two pilot-scale STAs constructed by the USACE. The Taylor Creek STA has removed 3.46 metric tons of total phosphorus over 28 months of flow-through operation.
- The **C-43 Water Quality Treatment and Demonstration Project** will investigate and test new strategies for reducing total nitrogen in the C-43 (Caloosahatchee River) to help meet the Total Maximum Daily Loads established for the river and estuary. Project land was acquired with funds from Lee County, SFWMD and the State.
 - Conceptual design (mesocosms and test cells) completed in 2012. Full engineering design is anticipated to begin in 2013.
- The **Lake Hicpochee Hydrologic Enhancement Project** will provide shallow water storage with incidental habitat restoration and water quality treatment on the northern portion of Lake Hicpochee. To restore the lake closer to historical conditions, the project will redirect or capture excess surface waters from the C-19 Canal, which discharges directly into the Caloosahatchee River, and divert it as sheetflow onto the northern portion of Lake Hicpochee.
 - The project design is anticipated to be completed in the summer of 2014.
- **Hybrid Wetland Treatment Technology** combines the use of wetland vegetation and a chemical treatment system to remove nutrients from the source water. This multi-site study was initiated in 2007 by the SFWMD and FDACS to assess technical feasibility and cost effectiveness.
 - During the study period, total phosphorus concentration reductions from the six operational test sites have ranged from 66 to 88 percent.
 - The Taylor Creek/Grassy Island site capacity expansion from 10 to 20 cubic feet per second is under way and anticipated to be completed by mid-2013.
- Through the **Dispersed Water Management** program, excess water is spread at shallow depths across the landscape using existing facilities with minimal new construction. Examples include retaining water on State-owned lands prior to the implementation of regional projects (interim lands), conducting pilot projects to document the costs and benefits of storing water on fallow citrus groves (water farming) and compensating ranchers for storage/nutrient reductions through the Northern Everglades Payment for Environmental Services Program.
 - Approximately 115,000 acre-feet of storage/retention has been created in the Northern Everglades with the majority (92,000 acre-feet) located in the Lake Okeechobee watershed.
- **Cost-Share Projects** with local governments provide additional environmental benefits. The State supports these initiatives and has cost-shared more than 130 local water quality improvement projects in the Lake and River watersheds since 2004.
- **New Alternative Technologies Assessment** provides a forum to explore additional ways to reduce nutrient loadings in both water and sediments. Numerous technologies have been reviewed to date, and five are currently being tested. The SFWMD is coordinating efforts to investigate promising methods, including the AquaFiber and Ferrate treatment technologies.
 - The AquaFiber patented process was used during pulse release events to remove and treat water from the Caloosahatchee before discharging directly back into the river. Preliminary water quality data from the test are encouraging.
 - The Ferrate process was tested at an Istokpoga Marsh Water Improvement District site, and the initial nutrient-reduction results are also encouraging.
- FDEP's **Basin Management Action Plans** (BMAPs) are the blueprints for restoring impaired waters by reducing pollutant loadings to meet the allowable loadings established in a Total Maximum Daily Load. The BMAP represents a comprehensive set of strategies such as permit limits on wastewater facilities, urban and agricultural best management practices, conservation programs, financial assistance and revenue-generating activities. These broad-based plans are developed with local stakeholder input and a commitment to implementation. The SFWMD is a collaborative partner in the BMAP planning and implementation process under way for Lake Okeechobee and the Caloosahatchee and St. Lucie estuaries.



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 West Palm Beach, FL 33416-4680



For more information on this subject, scan this QR code using a barcode reader app on your smartphone.

240

S-80 = 4.5

4,140

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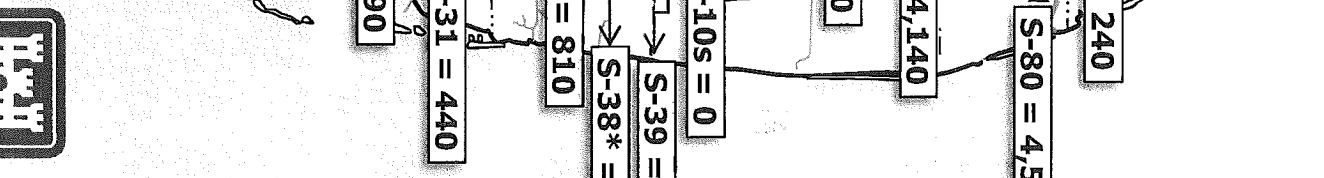
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STRONG

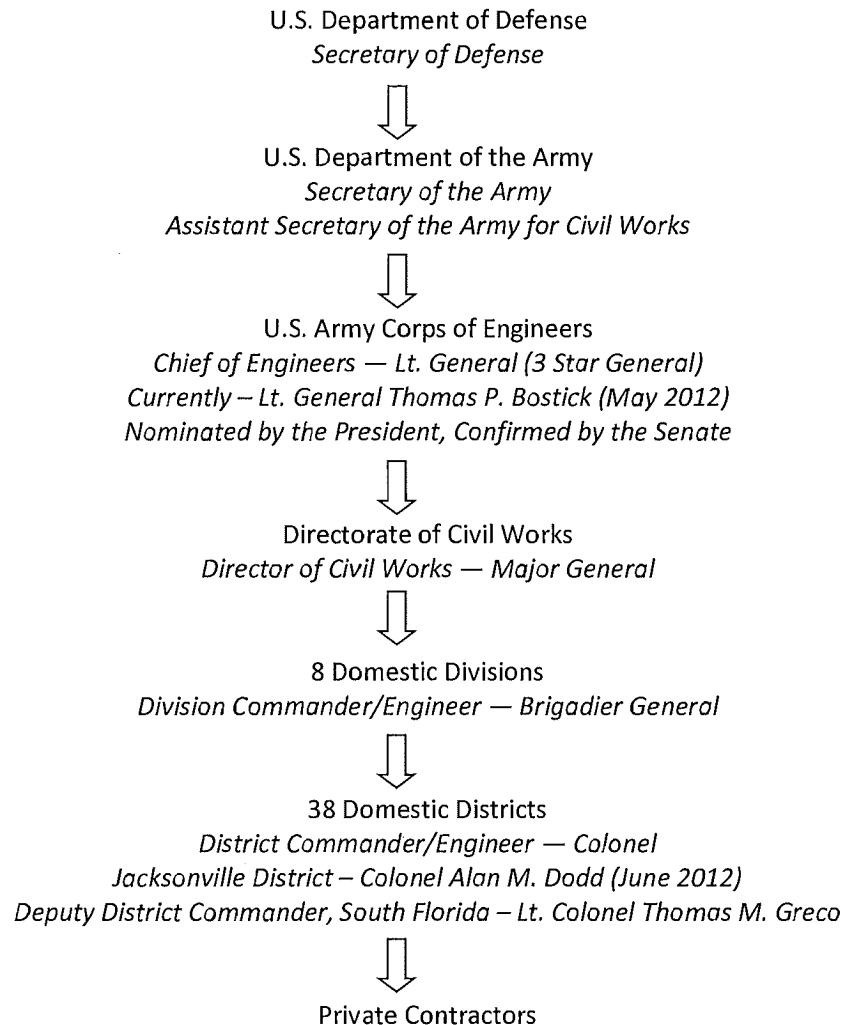


STRONG

U.S. Army Corps of Engineers (Corps)-Responsibility

- The U.S. Army Corps of Engineers –established in 1802 as the federal agency responsible for constructing and maintaining infrastructure for military and civilian purposes- including maintaining navigable waterways, flood control, storm damage control and reduction, and ecosystem restoration. The Corps includes military and civil works programs.

Organizational Structure



Congressional Authority for U.S. Army Corps of Engineers - Civil Works Projects

- 1824-Rivers and Harbors Act
- 1899-Rivers and Harbors Act gives Corps regulatory authority over construction in navigable waterways
- 1928-1955 Flood Control Act-nationwide Corps flood protection mission

- The **Flood Control Act of 1948** gave authority to the Corps for minor flood control projects without having to get Congressional approval. It also authorized several larger flood control projects including the **Central and South Florida Project** to provide:
 - flood control,
 - supply water for municipal, industrial and agricultural uses,
 - prevent salt water intrusion,
 - preserve fish and wildlife in the Everglades, and
 - included 1,000 miles of levees, 720 miles of canals and almost 200 water control structures.
- 1970-National Environmental Policy Act (NEPA) requires analysis of all proposed Corps activity
- 1972-Clean Water Act-gives Corps authority over dredge and fill operations in waters of the U.S. including wetlands.
- 1986-Water Resource Development Act (WRDA) gives primary authorization for Corps projects
- Energy and Water Development Appropriations-primary authorization for funding

Development of Corps Projects

Step 1: Reconnaissance -Study of a water resource issue and assess the federal government's interest.

- Authorization obtained in WRDA or by committee resolution

Step 2: Feasibility Study and Construction Authorization (S0/50 cost share with project sponsor)

- Outcome of the study determines if project warrants further federal investment and assesses the costs between feds and local project sponsor
- Chief's Report is the final recommendation to Congress and is signed by the Chief of Engineers.

Step 3: Preconstruction Engineering and Design Phase

- Conducted while the Corps seeks congressional authorization for project and construction funding.
- Funding provided in Energy and Water Development Appropriations Act

Step 4: Construction Phase

Step 5: Operation and Maintenance-as long as project remains authorized. This phase is frequently turned over to the local sponsor, but it is not required.

*Many Corps projects are authorized before funding is available-1,000+ projects/studies are backlogged.

*Project Development requires separate congressional authorizations for investigation and construction-General authority is provided for emergency flood response, levee repair, and FEMA response.



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August 2, 2013

Senator Joe Negron
412 Senate Office Building
404 South Monroe Street
Tallahassee, FL 32399-1100
Via email: negron.joe.web@flsenate.gov

RE: Solutions for Indian River Lagoon and the Lake Okeechobee Basin

Dear Senator Negron:

Thank you for providing leadership on the health of the Indian River Lagoon and Lake Okeechobee. The discharges to the coastal estuaries are an ongoing tragedy that demands urgent government response. Hopefully the Select Committee on Indian River Lagoon and Lake Okeechobee Basin can recommend a workable set of solutions that the state of Florida can implement. I write today to offer some specific recommendations.

Audubon has a long history with Lake Okeechobee, and we have five chapters in the counties along the Indian River. Our sanctuary in the Lake's western marsh provides habitat for many species of water and shore birds. Audubon's science staff are active contributors to the various plans that have advanced to reduce pollution and improve water management to ameliorate the impacts of wet weather and drought.

While many of your constituents are demanding an immediate end to discharges into the St. Lucie, real solutions require longer-term thinking and recognition that the region has significant water management and pollution problems requiring government action. Many of these solutions were debated and/or authorized by the Legislature in 2007 but not implemented.

Audubon recommends the following water management and water quality solutions:

Everglades Restoration Projects

1. **Central Everglades** – This project will allow 217,000 acre/feet (70 billion gallons) of water to flow south from Lake Okeechobee and will greatly reduce high flow events to

the coastal estuary releases (50% for the St. Lucie and 25% for the Caloosahatchee). The project's planning report is awaiting South Florida Water Management District approval. *This approval is needed for the project to be submitted to Congress for authorization.*

2. **C-44 St. Lucie River Reservoir and STA** – This project will limit discharges and pollution by storing and treating 50,600 acre/feet (16.5 billion gallons) of water from the St. Lucie and Lake Okeechobee watersheds. *Construction of this project that began in 2011 must be accelerated, which requires increased state and federal funding.*
3. **C-43 Caloosahatchee Reservoir** – This project will limit discharges by storing 170,000 acre/feet (55 billion gallons) of water from the Lake Okeechobee and Caloosahatchee watersheds. Construction on this project cannot begin until it is authorized by Congress. *Strong support for authorization is needed from Florida leaders.*

Water Management

4. **Dispersed Water Management** – This innovative program recognizes that water can be stored and treated on private and public lands to reduce flows from the over-drained Lake Okeechobee watershed. Several landowners are receiving modest payments for providing on-farm storage. *This program needs to be assessed for its potential to store even more water and could be extended in a cost-effective way.*
5. **Optimizing the Benefits of Kissimmee River Restoration** – Completing this project will add about 100,000 acre-feet of storage potential to the watershed, much of it by raising the levels of Lakes Kissimmee, Cypress and Hatchinehaw another 1.5 feet. *The South Florida Water Management District (SFWMD) should work with the Corps to revise the regulation schedule to store more water in the newly restored Kissimmee River floodplain.*
6. **Water Farming** – Unused agricultural land in the St. Lucie basin could provide additional storage capacity. *The SFWMD should explore opportunities to contract with landowners to store more water on private lands.*
7. **South Florida Water Management District Budget** – The agency's budget has been severely cut leaving it with inadequate resources to plan for and carry out programs and projects that keep excess water from draining into the estuaries. *The Legislature and Governor should allow the SFWMD to increase revenues from ad valorem tax to use on projects and programs to benefit the Lake Okeechobee watershed.*
8. **Lake Okeechobee Water Levels** – Public safety, agricultural water supply, and fish and wildlife protection determine Lake Okeechobee water levels. Those are targeted

between 12.5 and 15.5 feet, with some room for flexibility during the peaks of the wet and dry season. The Lake cannot be held too high without substantially increasing the risk of a breach to the levee. *Improved agricultural water conservation could reduce the need to manage the Lake as a reservoir for water supply needs.*

Water Quality

- 9. Reducing Nutrient Pollution** - Phosphorus and nitrogen continue to enter the watershed from wastewater, urban stormwater, farm fertilizers and animal feed. The Lake Okeechobee water quality goal is routinely exceeded by 400%. Plans for reducing nutrients in the estuaries have only recently been established and will have limited effect. *Water quality improvements can be achieved with aggressive new state rules that address treatment of urban stormwater, all sources of wastewater including septic tanks, the use of reclaimed water for landscape irrigation, and the use of sewage sludge for fertilizer. Agricultural practices, including the use of fertilizers, should meet a standard of "no harm" to water quality. We recommend that the state update its rules to provide meaningful limits on the amount of phosphorus from fertilizer and animal feed added to the watershed.*

On behalf of Audubon's members, I commend your leadership and ask you to give consideration to our recommendations and lead boldly. We look forward to providing additional comment at the committee's hearings and during the next legislative session. Please call on our policy and science experts if we can help in any way.

Sincerely,

A handwritten signature in black ink, appearing to read 'Eric Draper', with a stylized flourish at the end.

Eric Draper
Executive Director

Cc:

Members of the Select Committee on Indian River Lagoon and Lake Okeechobee Basin



MARTIN COUNTY

BOARD OF COUNTY COMMISSIONERS

2401 S.E. MONTEREY ROAD • STUART, FL 34996

Telephone: 772-221-2358
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DOUG SMITH
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Commissioner, District 2

ANNE SCOTT
Commissioner, District 3

SARAH HEARD
Commissioner, District 4

JOHN HADDOX
Commissioner, District 5

TARYN KRYZDA, CPM
County Administrator

MICHAEL D. DURHAM
County Attorney

August 19, 2013

The Honorable Senator Joe Negron, Chair
The Florida Senate
Select Committee on Indian River Lagoon and Lake Okeechobee Basin
404 S. Monroe Street
Tallahassee, FL 32399-1100

Dear Chair Negron:

Thank you for joining us in Martin County, where you are witnesses to two estuaries in full decline. This panel was convened in order to save these estuaries.

Fortunately, solutions exist that can reverse the demise of the St. Lucie River and Indian River Lagoon. Much of the science has already been done.

Now, the real decisions must be made. They are all political. Politicians in Tallahassee and Washington DC must choose between 2 starkly different options. They can continue the policies that are killing our ecosystems or they can advance policies and funding that will save them.

The Indian River Lagoon South Plan (IRL South Plan) was authorized into federal law in the Water Resource Development Act in 2007. Martin County citizens have taxed themselves eight of the past ten years, generating \$75 million to buy land to implement the IRL South Plan.

We acquired 45,000 acres for IRL South projects that will restore upland and wetland ecosystems. Since 2000, Martin County has invested over \$50 million for water quality improvement in 25 stormwater projects covering over 6,000 acres. We have restored 28 acres of oyster habitat in the St. Lucie River. We have adopted a strong fertilizer ordinance.

No county in Florida has invested as much as Martin County has in our part of Everglades Restoration. Reward us. Help us fix these problems. Use our generosity as a model to encourage other counties in Florida to participate in restoring our Everglades.

The most critical action you must take is to fund and complete the projects of the IRL South Plan. All of them: the C-23, C-24, C-25, and C-44 reservoirs and their attendant stormwater treatment areas and the natural lands restoration.

TELEPHONE
772-288-5400

WEB ADDRESS
<http://www.martin.fl.us>

The Central Everglades Planning Project (CEPP) is a new plan that was tentatively advanced for further consideration by the state last week. We support CEPP. However, if we don't complete the IRL South first, CEPP will not produce significant benefits for our estuaries.

All of the promises, conclusions, and scientific modeling for CEPP were predicated on completing IRL South FIRST.

Wetlands are vital natural resources. They store and clean water in drought and flood conditions. They filter harmful nutrients. Don't allow any state preemptions to restrict wetland protections.

One of the reasons why our estuaries are losing their abilities to recover from the Lake Okeechobee discharges is that the discharges are dirtier than ever before. Get serious about water quality standards. Urban fertilizer runoff is a contributor to this pollution. Don't allow any state preemptions that would prohibit counties to implement strict fertilizer ordinances.

Use state-owned land that was purchased for Everglades Restoration in the Everglades Agricultural Area for shallow storage of water, not growing cane. Do it now to create less water demand and less drainage demand.

Change the Lake storage schedule to minimize discharges, not to protect existing water users.

Find practical and immediate ways to slow down water coming into Lake Okeechobee from the North.

These are all things that the State of Florida can do. DO THEM NOW.

Sincerely,



Sarah Heard, Chair
Martin County Board of County Commissioners

SH/sh/jh

C: Honorable Members of the Martin County Board of County Commissioners
Taryn Kryzda, County Administrator

NATHANIEL P. REED

POST OFFICE BOX 1213
HOBE SOUND, FLORIDA 33475

PHONE (772) 546-2666
FAX (772) 546-5019

Date: July 30, 2013
To: Senator Joe Negron
From: Nathaniel Reed

My dear friend,

I have a long standing commitment to join my son on an adventure in Quebec at the time of your hearing in Stuart.

I am sickened by the massive releases of polluted water to both the St. Lucie and Caloosahatchee estuaries.

I wrote an Op-Ed piece (enclosed) for the Stuart News that is 'the truth and nothing but the truth'.

There are no 'silver bullets' to speed up the restoration effort.

There are fundamental scientifically, unassailable facts that cannot be avoided.

Before water destined to flow south to Florida Bay can be accomplished, the bridges over Tamiami Trail must be completed or the Okeechobee's excess water will damage the dikes surrounding the Water Conservation Areas.

The Central Everglades Plan must be 'jump started'. It is the only hope of moving water south from the lake and the EAA's polluted drainage, cleansing it and allowing it to flow into the water conservation areas and then under the Tamiami Trail bridges into the park.

Upstream, every effort should be made to hold more water so that the lake doesn't rise as quickly as it does now. The rainfall and the drainage will flow into the lake eventually, but must not be allowed to threaten the Hoover Dike. We need to slow down the massive drainage from the Okeechobee watershed by using the higher water stages in the upstream Kissimmee Lakes and flooding the Kissimmee watershed. These two actions will slow the downstream flows and give additional time for water managers to release water in far greater amounts to the estuaries until a third out let is constructed

The state of Florida has made only marginal progress on meeting pollution loading targets spelled out in the Lake Okeechobee Recovery Act, passed by the Legislature in 2000. The deadline to meet the targets is 2015, yet pollution levels are more than 4 times the limits. The 'Best Management Practices' and 'Stormwater Treatment Areas' have proved inadequate. The South Florida Water Management District and Florida Department of Environmental Protection develop plan after plan, but they neither ask for funding from the Legislature nor implement the plans on their own. We must make progress here.

I doubt that you or your committee wants to explore the deplorable financial bailout that the EAA lobbyists achieved in guaranteeing that they pay the minimum of the costs of cleansing their polluted drainage.

Senator, this is not 'rocket science'!

What is needed is for the SFWMD Board to accept the responsibility to become the local sponsor of the Central Everglades Restoration Plan, use BP fine funds to build the needed bridges over Tamiami Trail, fund with or without federal appropriations specific goals that can be accomplished quite quickly that will lead to a southern exit from the lake allowing water to be stored and cleaned before being released to the existing water conservation areas.

The state could take control of its own destiny if it was willing to bond a set of measures and complete a variety of the primary objectives up and downstream of the lake. The citizens of Florida all bear a responsibility to restore the everglades system and should be willing to accept a tax that would allow the state to take charge of its own destiny.

We have all failed as 'stewards' of our beloved Florida. The state's water pollution levels have risen to dramatic highs. Water management has failed to fully grasp the importance of making tough decisions to move Okeechobee south, clean it, hold some of it in 'reservoirs', and release it into the system that allows the now cleansed water to flow under Tamiami Trail into the Everglades National Park.

I understand Dr. Tom Van Lent will be briefing your committee on August 22nd. He is not only an expert on the subject, he is quietly fearless in telling the 'truth, the whole truth, and nothing but the truth'.

Thank you for organizing the hearing. The villains are not only the water managers, but all of the governmental agencies which have failed in their duties, the legislature that has ignored the facts, the awesome power of the Sugar Industry to block any progress and the people of Florida, lacking dynamic leadership, that have let the current situation exist without facing the 'truth' of our calamity.

Thank you for having the courage to hold public meetings so the outraged citizens who are watching their beloved estuaries fouled by contaminants understand what must happen before clean water will become a reality.

Our most important resources are being destroyed by years of inaction and failure to be understand the truth and nothing but the truth!

A handwritten signature in black ink, appearing to read "Joe Negron", with a stylized flourish at the end.

Why Blame the Corps? by Nathaniel Reed

Billions of gallons of polluted water are flowing into the St. Lucie River, the Indian River and the Caloosahatchee Estuary from Lake Okeechobee.

The environmental damage is massive.

Every time a wet event hits Florida, such as the hurricanes of 2004-5, or simply several non-tropical thunderstorms such as last October, the lake rises very rapidly 3-4 feet within days - threatening the Hoover Dike and the communities south of the lake.

The Corps has no options. They must reduce the water level in the lake in case of another wet hurricane, common even in October like Hurricanes Wilma and Isaac.

The Corps has no options because after wet and deadly hurricanes early last century, at the request of the state, the Corps of Engineers studied the average size of the lake and designed a dike to surround it. The Corps also made a fateful engineering decision to cut off the natural flow way from the lake to the downstream everglades and dump it more 'efficiently' to the east and west estuaries.

That decision was made more than 60 years ago and decades of money was spent to build that water management dream of the day. Today, this system is disastrously outdated and it is our turn to rebuild it to meet modern needs.

This is an outline of what needs to be accomplished IF periodic massive drainage into the St. Lucie and Caloosahatchee is to be ended:

- A) Far more storage must be constructed north of the lake to prevent high levels in the first place, and far more land must be acquired south of the lake to allow water storage and cleansing so the estuary dumps can be safely redirected to the everglades and away from the estuaries.
- B) Before any southward redirection can be done, the following must occur:
 - 1) A five mile bridge must be built on the Tamiami Trail to let the huge water flows released from the lake enter the traditional flow ways in the park.
 - 2) The eastern dike in Water Conservation Area 3B (WCA3B) must be strengthened to prevent leakage or the area can never be used as it was supposed to be used.
 - 3) The barriers between WCA3A and 3B must be broken, removed, pierced - whatever term is most accurate and cost effective.
- C) Farms and cities everywhere must clean their pollution before they release water to any of our incredibly valuable waterways.

If the state and the federal government don't embark on a plan that is far more expensive than what we can afford as a state, then the almost too regular discharge of billions of gallons of polluted water will haunt us long into the future.

These are tall orders, but think for a moment before we continue to rail against the Corps' decision to lower Lake Okeechobee to protect the integrity of the Hoover Dike.

The governor's reduction in the ability of the SFWMD to pay for much more than operating costs does not help.

Everything on my 'must do list' represents one week of the Afghanistan war expenses.

Everything on my 'wish list' is obtainable.

Our congressional delegation has significant power in the Congress. Our Governor and the Florida Commissioner of Agriculture are very persuasive with our legislature even in times of recession.

Despite the need to reduce the incredible national deficit, don't you think manmade disasters like what is threatening our rivers and the everglades ecosystem are worthy of national and state investments?

Nathaniel Reed

For a more detailed history, please visit <http://nathanielreed.blogspot.com/>. Mr. Reed served as the Environmental Advisor to Governors Kirk and Askew, as Assistant Secretary of Interior for Fish, Wildlife and National Parks under President Nixon and Ford, served 14 years on the Board of the South Florida Water Management District, Chaired the Commission on Florida's Environmental Future whose principal recommendation was the issuance of a series of bond issues that have been supported by successive governors before Governor Scott and have preserved more than 2 million acres of 'the best of native Florida'. Mr. Reed is presently serving as Vice Chairman of the Everglades Foundation.



Impacts of Lake Okeechobee Freshwater Releases

What's at Stake?

Sanibel Beach Awards & Recognition

- **2013 U.S. News Travel**
 - ☆ Bowman's Beach recognized Top 10 Best Beaches in the World
- **2013 Trip Advisor's**
 - ☆ Top 10 U.S. Islands, Inaugural Travelers' Choice Islands Award
- **2012 Frommer's Travel Guide**
 - ☆ #1 – Top 10 Places to Travel in the World
- **Trip Advisor Travelers' Choice Destination Awards**
 - ☆ Top 25 Beaches in the World
- **Trip Advisor Travelers' Choice Destination Awards**
 - ☆ #5 – Top Beaches of the United States
- **Trip Advisor Travelers' Choice Destination Awards**
 - ☆ Top 10 Beach & Sun Destinations in the United States
- **Shermans Travel**
 - ☆ Top 10 Secluded United States Beaches (Bowman's Beach)
- **Condé Nast Traveler Reader's Choice Award**
 - ☆ Best Island Destination in North America
- **Fodor's Travel**
 - ☆ #1 – Best Beaches for Seashells
- **CNN Travel**
 - ☆ #1 – Best Beaches for Shells
- **Travel + Leisure Magazine**
 - ☆ Top Shelling Beach

-OVER-

What's at Stake?

Sanibel Beach Awards & Recognition

Continued

- **Travels.com**
 - ☆ #1 – Best Florida Beaches for Kids
- **Women's Health Magazine**
 - ☆ Best Beachcombing
- **Florida Beaches Guide**
 - ☆ Florida Best Beaches for Weddings
- **Florida Beaches Guide**
 - ☆ Florida Best Snowbird Beaches
- **PlacesAroundFlorida.com**
 - ☆ Best Shelling Beach
- **Shermans Travel**
 - Top 10 Family Beaches
- **Trip Advisor**
 - ☆ Top U.S. Islands' list

Impacts of Freshwater Releases from the Caloosahatchee River on Sanibel Island and the Coastal Waters of Lee County



Photo by Sanibel Captiva Conservation Foundation

The freshwater plume extends out of Redfish Pass into the Gulf of Mexico on July 10, 2013.



The freshwater plume is clearly visible in the Gulf of Mexico through Blind Pass on Sanibel Island on July 10, 2013.

Photos by City of Sanibel



Impacts of Freshwater Releases from the Caloosahatchee River
on **Sanibel Island** and the Coastal Waters of Lee County



The freshwater plume extends past the Sanibel Causeway and Sanibel Lighthouse Beach Park on July 10, 2013.

Photos by Sanibel Captiva Conservation Foundation



Impacts of Freshwater Releases from the Caloosahatchee River
on **Sanibel Island** and the Coastal Waters of Lee County



The freshwater plume extends out of Redfish Pass into the Gulf of Mexico on July 10, 2013.

Photos by Sanibel Captiva Conservation Foundation



Impacts of Freshwater Releases from the Caloosahatchee River
on **Sanibel Island** and the Coastal Waters of Lee County

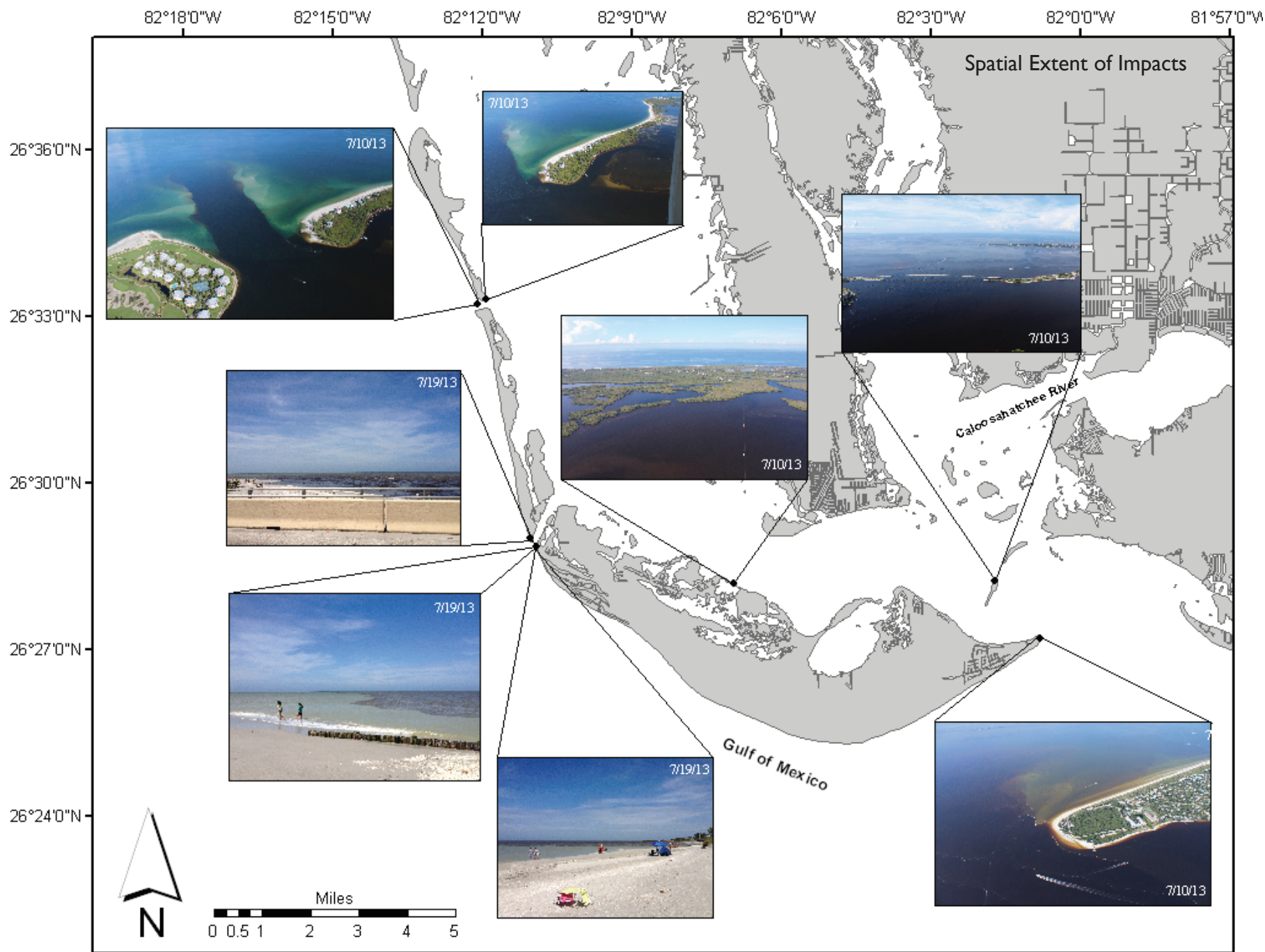


The typically clear beaches at Sanibel's Lighthouse Beach Park are covered with expanses of dead seagrass on July 26, 2013, two weeks after the freshwater plume hit the Gulf of Mexico.

Photos by City of Sanibel



Impacts of Freshwater Releases from the Caloosahatchee River
on **Sanibel Island** and the Coastal Waters of Lee County



Impacts of Freshwater Releases from the Caloosahatchee River
on Sanibel Island and the Coastal Waters of Lee County

Lake Okeechobee Water Releases

SANIBEL LEGISLATIVE AND FUNDING PRIORITIES

FEDERAL PRIORITIES

1. Fully support the 2013 Water Resources Development Act (WRDA) bill, which includes authorization for the Caloosahatchee C-43 West Basin Reservoir Project; and appropriate the necessary funds to implement the C-43 Reservoir Project. (Reservoir will provide 170,000 acre-feet of storage within the Caloosahatchee basin and help address high and low flow issues)
2. Fast track the Central Everglades Planning Project (CEPP) and get congressional support and funding for the project. (The project will move approximately 250,000 acre-feet of water south of Lake Okeechobee and will reduce some of the damaging flows to the St. Lucie and Caloosahatchee estuaries)
3. The Federal Government needs to fund their share of the Comprehensive Everglades Restoration Plan (CERP) and implement the projects agreed to in the plan. (A majority of the lands needed for the projects have been purchased by the State and need Federal funding to move forward with the projects)
4. Continue to keep pressure on the Army Corps to move as quickly as possible to rehabilitate the Herbert Hoover Dike. (The project will protect the communities around Lake O and provide more freeboard and temporary storage in the lake to reduce peak flows to the estuaries)

STATE PRIORITIES

1. **Purchase the additional 153,209 acres of US Sugar lands south of Lake Okeechobee within the Everglades Agricultural Area at fair market value.** The State currently owns 26,790 acres of land that was purchased for \$197,396,088 (\$7,400/acre) from U.S. Sugar Corp. as part of the *Reviving the River of Grass Project*, with an option to purchase an additional 153,209 acres. Initial purchase of the land would have short- and long-term benefits to the Caloosahatchee and St. Lucie estuaries by reducing the need for flood control on those lands (at a minimum, it could temporarily store 200,000 acre-feet of water). The purchase would also increase capacity in the stormwater treatment areas (STAs) south of the Lake, allowing more water within Lake Okeechobee to be moved into the Water Conservation Areas. When completed, this project could store or convey approximately 500k acre-feet of water south of Lake Okeechobee.
2. **Interim storage on C-43 West Reservoir site** – Project would significantly increase the amount of water that can be stored on the C-43 West Reservoir (Barry Groves) property. It would require additional infrastructure including building berms and installing larger pumps to put more water on the site. It could be considered phase I of the larger C-43 West Reservoir CERP federal project and could be included in the state cost share for the federal project. Estimated cost is \$655,000 to increase total amount of storage on the site to 15,000 acre-feet.
3. **Lake Hicpochee Restoration Project** – Additional funds needed to complete planning and construction on south side to increase storage and treatment. Estimated cost of \$4.5 million for construction of Lake Hicpochee South. Benefits from project come from creation of a spreader canal that slows the rate water gets to the Caloosahatchee and improves water quality.
4. **Increase distributed storage in Kissimmee, Lake Okeechobee, and Caloosahatchee basins.** Additional funds are needed for the state to partner with large land owners in the Kissimmee, Lake Okeechobee and Caloosahatchee basins to store more water on the land so that it is not discharged to Lake Okeechobee or to the Caloosahatchee River and Estuary. No cost estimate available, but new partners could be brought on as funds become available.
5. **Site visit by the Governor with Mayor Ruane by air of the Caloosahatchee and coastal waters of Lee County** to see the impact the releases are having on the coastal communities.

*Note: *The state needs to continue to fully support the Comprehensive Everglades Restoration Program (CERP) projects. Our biggest relief from the high flow problems in the Caloosahatchee are going to come from the larger Federal projects, which have much larger water storage benefits and can move water south into the everglades. The state needs to continue to work with our federal partners to come up with strategies to move more water south of Lake Okeechobee.*



City of Sanibel
Mayor Kevin Ruane
City Manager Judie Zimomra
800 Dunlop Road
Sanibel, Florida 33957
239.472.3700
J.Zimomra@MySanibel.com

Opening Remarks

Congressman Patrick Murphy

Congressman Patrick E. Murphy represents Florida's 18th Congressional district, which includes Martin, St. Lucie, and northern Palm Beach counties. He was sworn into Congress at the age of 29, becoming the youngest Member of the 113th Congress. Congressman Murphy currently serves on the prestigious House Committee on Financial Services, where he sits on the Subcommittee on Financial Institutions and Consumer Credit as well as the Subcommittee on Domestic and International Monetary Policy. Additionally, Congressman Murphy sits on the House Committee on Small Business, where he serves as the Ranking Member on the Agriculture, Energy, and Trade Subcommittee. Congressman Murphy is also a member of the New Democrat Coalition, a group of moderate, pro-business Democrats. [Click here](#) for a full list of Congressman Murphy's committee assignments and caucus memberships.

Congressman Murphy was born and raised in Florida, spending most of his childhood in the Florida Keys. Much of his youth was spent on construction sites of his family-owned construction company, Coastal Construction Group (CCG). His family has been in the construction industry for five generations and Congressman Murphy continued in the industry, working as a day laborer through college and most recently, starting his own small business, Coastal Environmental Services, which specializes in disaster relief and cleanup efforts. CCG was named one of the nation's top "Green Contractors." In 2010, Congressman Murphy spent six months working in the Gulf of Mexico to help with cleanup efforts following the BP oil spill.

Before starting Coastal Environmental Services, Congressman Murphy earned his B.S. in business administration from the University of Miami, graduating with dual majors in accounting and finance. After graduating, he went to work as a Certified Public Accountant (CPA) for Deloitte and Touche as an auditor of Fortune 500 companies. Congressman Murphy is one of only 10 CPAs currently serving in the House of Representatives.

Given Congressman Murphy's background as a CPA and operating a small business, he knows firsthand the importance of bringing smart, efficient rules of the road to protect taxpayers from reckless behavior and the need to work together to find new ways to support small business growth, the true backbone of our economy. Serving on the Small Business Committee, Congressman Murphy will work to promote smarter regulations rather than more regulations and to create a predictable and globally competitive tax code that will help small businesses to spur economic growth through job creation. Additionally, Congressman Murphy is committed to working with his colleagues on the Financial Services Committee to find real solutions to the housing crisis, with his home state of Florida unfortunately leading the nation in foreclosures. Through his positions on the Small Business Committee as well as the Financial Services' Subcommittee on Financial Institutions, Congressman Murphy will work to encourage lending to small businesses and entrepreneurs, understanding the important role of capital flow in our economic recovery.

Having lived on the Florida coast his entire life, Congressman Murphy is acutely aware of the importance of the environment and how its health is vital to the economy. One of his top priorities is to protect the Florida shores and Everglades from the dangers of oil drilling. Congressman Murphy is also dedicated to ensuring that programs such as Social Security and Medicare, which made the middle class so strong, are protected for future generations.

Congressman Murphy is committed to working in a bipartisan manner to tackle the challenges currently facing the nation to continue to move the country forward. To that end, he is a co-chair of the No Labels' Problem Solvers Group, which is comprised of House and Senate members dedicated to building trust

across the aisle. Additionally, Congressman Murphy is the co-founder and co-chairman of the United Solutions Caucus, which is a group of 30 like-minded freshman members, both Democrats and Republicans, who are focused on finding long-term, bipartisan solutions to fiscal issues and helping build relationships across party lines. Congressman Murphy understands this bipartisan work is essential to protecting the middle class and the American dream.

Secretary Herschel Vinyard, Florida Department of Environmental Protection

Secretary Vinyard has more than twenty years of experience in environmental law and business management. In his previous role as Director of Business Operations at BAE Systems Southeast Shipyards, the world's second largest defense contractor, Secretary Vinyard was responsible for strategic planning, business development and regulatory and government affairs. He also served on a number of professional and civic associations that draw upon his expertise in environmental and complex business practices, including board service on the Jacksonville Port Authority, the Jacksonville Regional Chamber of Commerce and the Manufactures Association of Florida. During his decade in private practice at Smith, Hulsey and Busey, one of Florida's most well-respected law firms, Secretary Vinyard counseled clients in state and federal environmental compliance and permitting, was heavily involved in the siting of an electrical cogenerating facility and assisted in industry waste minimization efforts. He also served as a chair of the environmental and land use law section of the Jacksonville Bar Association. Secretary Vinyard received his undergraduate and law degrees from Louisiana State University. Secretary Vinyard's top priorities at DEP include establishing permitting efficiencies, consolidating water policies to create a more effective, consistent development and management strategy, and maintaining the state's legacy of an award-winning park system.

Overview/Framework

Ernie Barnett, Interim Executive Director, South Florida Water Management District

Ernie Barnett joined the District in 2005. He has more than 30 years of water resources management experience and public service, during which he contributed to several landmark environmental laws. He had a lead role in the successful passage by the Florida Legislature of the Lake Okeechobee Protection Act and the Everglades Restoration Investment Act, which has provided more than \$1 billion for Everglades restoration. He also helped secure approval of the Water Resource Development Act of 2000, in which Congress authorized the Comprehensive Everglades Restoration Plan.

During a 22-year tenure with Florida's Department of Environmental Protection, Mr. Barnett worked as a shellfish biologist, aquatic preserve manager, environmental administrator, Water Policy Director and Ecosystem Projects Director. He was the recipient of the 2001 National Wetlands Award for Outstanding Wetlands Program Development from the Environmental Law Institute.

Mr. Barnett has a Bachelor of Science in Environmental Resource Management and Planning and a Master of Science in Biology, both from the University of West Florida, and a Master of Science in Environmental Engineering from the University of Florida.

Colonel Alan Dodd, District Commander, Jacksonville District, United States Army Corps of Engineers

Colonel Alan M. Dodd is the Commander and District Engineer of the U.S. Army Corps of Engineers, Jacksonville District. Col. Dodd assumed command on June 28, 2012.

Col. Dodd recently graduated from the U.S. Army War College at Carlisle Barracks, Pa. Prior to this assignment, he served as Commander, 27th Engineer Battalion (Combat) (Airborne), Fort Bragg, N.C.,

where he led the battalion during combat operations in Afghanistan for Operation Enduring Freedom from December 2009 to December 2010. Previous assignments include: Command Engineer, Joint Special Operations Command, Ft. Bragg, N.C.; Plans Branch Chief, Office of the Chief of Engineers, Headquarters, Department of the Army, Washington, D.C.; Special Assistant to the Commanding General, Headquarters, U.S. Army Corps of Engineers, Washington, D.C.; Battalion Executive Officer and Battalion Operations Officer (S3), 27th Engineer Battalion (Combat)(Airborne), Fort Bragg, N.C.; Command Engineer, 1st Corps Support Command, Fort Bragg, N.C.; Deputy Resident Engineer, Yokosuka Resident Office, Japan Engineer District, U.S. Army Corps of Engineers; Commander, C Company and Battalion Assistant Operations Officer (S3), 317th Engineer Battalion (Combat), 3rd Infantry Division, Fort Benning, Ga.; Brigade Construction Officer, 20th Engineer Brigade (Combat)(Airborne Corps), Ft Bragg, N.C.; Executive Officer, Combat Engineer and Light Equipment Platoon Leader, B Company, 27th Engineer Battalion (Combat)(Airborne), Fort Bragg, N.C.

Col. Dodd was born and raised in Worcester, Mass. He enlisted in the U.S. Army in 1983 as an Atomic Demolitions Munitions Specialist and was assigned to the 66th Engineer Company (Atomic Demolition Munitions) at Ft Hood, Texas. In May 1989, he graduated from the U.S. Military Academy, West Point, N.Y. with a bachelor's degree in civil engineering and was commissioned in the U.S. Army Corps of Engineers. He has a master's degree in civil engineering from Pennsylvania State University. Col. Dodd is a graduate of the Army War College, Army Command and General Staff College, Combined Arms Services Staff School, Army Advanced Force Management Course, Engineer Officer Basic Course, Infantry Officer Advanced Course, 82nd Airborne Division Jumpmaster Course and the Air Movements Officer Course.

Col. Dodd's awards include the Bronze Star Medal with "V" device (three oak leaf clusters), Defense Meritorious Service Medal, Meritorious Service Medal (four oak leaf clusters), Army Commendation Medal (three oak leaf clusters), Army Achievement Medal (three oak leaf clusters), Army Good Conduct Medal, National Defense Service Medal with bronze service star, Southwest Asia Service Medal with two bronze service stars, Afghanistan Campaign Medal with two bronze service stars, Iraq Campaign Medal, Global War on Terrorism Expeditionary Medal, Global War on Terrorism Service Medal, Humanitarian Service Medal, Saudi and Kuwait Liberation Medals, NATO Medal, Overseas Service Ribbon, Combat Action Badge, Master Parachutist Badge, Australian, German, Japanese, Netherlands and Honduran Parachutist Badges, Army Staff Identification Badge and the Bronze Order of the deFleury Medal.

Technical Panel

Tom Van Lent, Ph.D., Senior Scientist, The Everglades Foundation

Runner, swimmer, bike rider, aficionado of Icelandic poetry, soccer referee...Thomas Van Lent is a 21st-century Renaissance man. In addition to aforementioned pursuits, Van Lent is currently the senior scientist at the Everglades Foundation, where he works on providing scientific and technical support to non-governmental environmental organizations supported by the Foundation. His responsibilities include presenting expert analysis of hydrologic, engineering, and ecological information to assist in development of Everglades restoration alternatives and meeting Everglades restoration and protection objectives. Van Lent has a distinguished career as a scientist and engineer. He graduated from South Dakota State University before attending the University of Minnesota and Stanford University where he received master's and doctorate's degrees respectively. He has also worked at the South Florida Water Management District, Everglades National Park and as an assistant professor at South Dakota State University. Van Lent is a resident of the Florida Keys and received the George M. Barley Conservationist of the Year Award for his ability to convey highly technical information in understandable terms to decision-makers on Everglades restoration.

Brian Lapointe, Ph.D., Research Professor,

Harbor Branch Oceanographic Institute of Florida Atlantic University

Brian E. Lapointe obtained a BS in Biology from Boston University (1973), a MS in Environmental Science from the University of Florida (1979), and a Ph.D. in Biology from the University of South Florida (1982). Brian worked at Woods Hole Oceanographic Institution, Skidaway Institute of Oceanography, and is currently a Research Professor in the Center for Marine Ecosystem Health with the Harbor Branch Oceanographic Institute (HBOI) at Florida Atlantic University (FAU) in Ft. Pierce, FL. His interests include biological oceanography, algal physiology and biochemistry, seagrass and coral reef ecology, marine pollution, and remote sensing.

Dr. Lapointe has extensive experience in water quality research in South Florida and the Caribbean region. He has assessed the impacts of nutrient pollution from septic tanks, sewage outfalls, non-point source agricultural runoff, and atmospheric deposition on the development of harmful algal blooms (HABs) and the health of tropical seagrasses and coral reefs. His long-term water quality monitoring at Looe Key reef in the Florida Keys represents the longest low-level nutrient record for a coral reef anywhere in the world. Brian's recent work has utilized algal tissue biochemistry and stable isotopes to discriminate nutrient sources supporting HABs, including red tides off southwest Florida. He developed the first "Ridge-to-Reef" water quality monitoring program for the

European Union in Negril, Jamaica, a model currently being adopted by Marine Protected Areas around the Caribbean region. He has advised the United States Environmental Protection Agency, National Oceanic and Atmospheric Administration, State of Florida, and the governments of Monroe County (Florida Keys), Palm Beach County, Lee County, Bahamas, Tobago, Turks & Caicos, Jamaica, Bonaire, Curacao, Martinique, and St. Lucia on development of water quality monitoring programs for assessing the impacts of land-based pollution.

Having authored over 90 publications on various aspects of nutrient pollution and algal ecology, Dr. Lapointe was a contributing author for the book "Clean Coastal Waters: Understanding and Reducing Nutrient Pollution" published by the US National Academy of Sciences. He has received numerous awards for his work, including the Sigma Xi Outstanding Research Award, a John D. and Catherine T. MacArthur Foundation Award, and inclusion in "Who's Who in Scuba Diving and Underwater Research" and "Who's Who in America, Science and Engineering, the Millennium Edition". He currently serves on the Editorial Board of Harmful Algae, the Board of Advisors of the Arthur Marshall Foundation (West Palm Beach, FL) and is a National Fellow in the Explorer's Club.

Drew Bartlett, Director, Division of Environmental Research and Restoration,

Florida Department of Environmental Protection

Andrew Bartlett is currently Director of the Division of Environmental Assessment and Restoration of the Florida DEP. That Division is responsible for implementing the Florida Watershed Restoration Act and the Clean Water Act for the State of Florida including setting water quality standards, monitoring and assessing surface water quality, establishing TMDLs and restoration goals, and developing and implementing Basin Management Action Plans, the blueprint for restoration. Prior to his current position, he was Chief of the Standards, Monitoring, & TMDL Branch at the Environmental Protection Agency, Region 4 office responsible for implementing those programs authorized by the Clean Water Act. Prior to his work in surface water quality, Andrew spent 10 years implementing programs under the Safe Drinking Water Act. For seven years, Andrew administered the public water supply program in the southeast through the transition of the 1996 Safe Drinking Water Act Amendments. Andrew also administered for

three years the ground water monitoring, wellhead protection, and underground injection control programs in the southeast.

Andrew holds an industrial engineering degree from the Georgia Institute of Technology and master of business administration from Georgia State University.

Community Round Table 1

Kevin Henderson, Evergreen Engineering

Professional History

1993-2013: President, Evergreen Engineering, Inc. Stuart, Fla.
1990-1993: Director of Planning and Environmental Services, Keith and Schnars, Stuart, Fla.
1987-1989: President, Illinois Division; and Partner, Trammell Crow Residential, Chicago, Ill.
1986-1987: Vice President and Regional Construction Partner, Trammell Crow Residential Midwest, Chicago, Ill.
1984-1986: Vice President and Construction Partner, Metro Development Corporation of Boca Raton, Fla.
1983-1984: Project Manager, Metro Development Corporation of Atlanta, Tampa, Fla.
1980-1983: Engineer, Post Buckley Schuh and Jernigan, Tampa, Fla.
1977-1980: Environmental Planner, Treasure Coast Regional Planning Council, Stuart, Fla.

Public Service

(current)

Board Member, Rivers Coalition Legal Defense Fund

(past)

Mayor and Commissioner, City of Stuart
Chairman, Treasure Coast Council of Local Governments
Chairman, Metropolitan Planning Organization of Martin County
Chairman, Watershed Action Committee of Martin County
Stormwater Utility Advisory Committee, Martin County
Board of Directors and Executive Committee, Florida League of Cities
Treasure Coast Regional Planning Council
Martin County Business Development Board
Planning and Zoning Board, City of Stuart
Chairman, Martin County Conservation Alliance
F.I.T. Acquisition Study Committee
Allapattah Ranch Acquisition Study Committee
Chairman, Martin/St. Lucie Regional Attenuation Facility Task Force
Founding Member Martin County Character Counts
SFWMD Upper East Coast Water Supply Committee
University of Florida Council of Advisors for Natural Resources
Martin County School Board/Board of County Commissioners School Planning Committee
Martin County Blue Ribbon Task Force
City of Stuart Charter Advisory Commission
SFWMD Water Resources Advisory Commission
President, Martin County Taxpayers Association

Lake Okeechobee Water Resources Advisory Commission
Indian River Lagoon Restoration Feasibility Task Force
Board Member, St. Lucie River Initiative, Inc.
Delegate, Rivers Coalition
St. Lucie River Issues Team, South Florida Ecosystem Restoration Task Force

Professional

Licensed Professional Engineer (Civil) FL #34260
Florida Engineering Society
National Society of Professional Engineers
American Chemical Society
American Association for the Advancement of Science
American College of Forensic Examiners
Diplomat, American Board of Engineering and Technology

Education

Martin County High School Class of 1969
University of Florida Bachelor of Science 1973
University of Florida Master of Science 1975
University of Florida Master of Science 1977

Honors

S.T.A.R. Student, MCHS Class of 1969
Highest Honors, University of Florida, 1973
Southeastern Builders Conference Aurora Award for Best New Rental
Community in Southeastern United States (1985 and 1987)
Valedictorian, LeaderShip Martin County (1990)
Distinguished Leadership Award (1991), National LeaderShip Conference
Outstanding Local Elected Official in Florida (1996), Florida Association of City and County Managers
Marquis Who's Who in Science and Engineering
International Who's Who Business/Professional
Water Conservationist of the Year (2006), Florida Wildlife Federation
Conservationist of the Year (2007) TC Chapter, Coastal Conservation Association

Mark Perry, Executive Director, Florida Oceanographic Society

Employment & Experience

1978 – Present: Executive Director, Florida Oceanographic Society, non-profit corporation established since 1964 for marine science research and education. Manage projects and operations, author and administer grant projects, author and edit publications, presentations and programs. Overall management and administrative responsibilities as chief executive officer.

1980 – 88: Manager/curator, including collection and care of marine life for the Hartman Aquariums, Gilbert's Bar House of Refuge Museum, Historical Society of a Martin County.

1983 – 86: Instructor of Astronomy, Florida Institute of Technology, Jensen Beach Campus Florida.

1978 – 79: Project Manager for two project grants, Florida Oceanographic Society. Managing staff and training programs for 14 staff. Co-Authored pilot operational year grant projects.

1975 – 78: Research Technician and AB Seaman, U.S. Merchant Marine with University of Miami, Rosensteel School of Marine and Atmospheric Sciences, research vessels, Atlantic, Caribbean and Gulf of Mexico.

1974 – 75: AB Seaman, U.S. Merchant Marine with Tidewater Marine, Inc., Morgan City, Louisiana. Offshore oil and gas industry supply vessels, crew boats and tugs. Gulf of Mexico

Resident of Stuart, Florida area since 1957 growing up along the St. Lucie River, Indian River Lagoon and nearshore reefs of the Atlantic Ocean. Experience in all water related activities, conservation and natural resource interpretation including research and education activities.

Commissioner Jacqui Thurlow-Lippisch, Town of Sewall's Point

Jacqui Thurlow-Lippisch is "native" of Stuart and is serving her fifth year as a commissioner for the Town of Sewall's Point. She is former mayor; a member of the Treasure Coast Council of Local Governments; chair for the 2014 Florida League of Cities' Energy and Environmental Quality Legislative Committee; a foundation board member for Harbor Branch Oceanographic Institute and volunteer in their Marine Mammal Department; an alternate on the Water Resource Advisory Council for the SFWMD; a board member for the Rivers Coalition Defense Fund and an administrator for the coalition's youth group, River Kidz. Jacqui is a former teacher and now works for Water Pointe Realty Group in Sewall's Point. She is a member of St Mary's Church.

Eric Draper, Executive Director, Audubon Florida

Eric Draper is Executive Director of Audubon Florida. Audubon owns Florida's premiere ecotourism destination Corkscrew Swamp Sanctuary as well as other conservation lands and nature centers, fields 20 scientists to study water birds, operates the Center for Birds of Prey, and is the state's oldest and most influential conservation group. Audubon Florida has 35,000 members and 44 chapters.

A Florida native, Eric Draper is a career conservationist and is recognized as a leading advocate for Everglades restoration, water resource protection and land conservation. Previously, he was National Audubon's Sr. Vice President for Policy, staff director for the Florida House of Representatives Majority Office, and started Florida TNC's government relations program.

Current service includes appointment to the EPA's Environmental Finance Advisory Committee and Commissioner Putnam's Water Resource Advisory Committee. He serves on the boards of the Council for a Sustainable Florida and the Florida Ocean Alliance. Previous service included the Clinton-Gore Transition Team, the Florida Soil and Water Conservation Council and the Florida Water Management District Review Commission. He studied philosophy at the University of South Florida

Community Round Table 2

Tom MacVicar, President, MacVicar Consulting

Tom MacVicar is a registered professional engineer specializing in water resource and issues of South Florida. He spent 16 years on the staff of the South Florida Water Management District and for the last 19 years has been a private consultant serving mostly private clients affected by the Water Management System in South Florida. He is an expert in the history, design and operation of the Federal Water Management System in South Florida.

Bubba Wade, Jr., Senior Vice President of Corporate Strategy and Business Development, United States Sugar Corporation

Malcolm S. Wade, Jr. is Senior Vice President, Corporate Strategy and Business Development of United States Sugar Corporation. He has been employed by the Company for more than 27 years and has been a member of the senior management team for over 20 years. Wade, a certified public accountant, joined the company as Director of Internal Audit in 1982 and subsequently was named director, vice president and senior vice president of the Administrative Service Group and is currently senior vice president of sugar operations.

For more than 20 years, Wade has been involved in developing and overseeing the Company's environmental responsibilities. Through his appointments by two governors and the South Florida Water Management District to working groups on South Florida environmental issues, Wade has helped shape public policy regarding Everglades Restoration.

In March 2005, Governor Bush appointed Wade to a four-year term on the South Florida Water Management District's Governing Board, a position he resigned in 2008 due to the State's proposed acquisition of U.S. Sugar. Previously, Wade was a member of the team representing South Florida farmers that spent more than a year negotiating with the Interior and Justice Departments, the State of Florida and the South Florida Water Management District to resolve the legal disputes over Everglades Restoration. He represented farmers on the technical mediation committee that crafted the Technical Mediated Plan for Everglades Restoration, which was adopted by the Florida Legislature in the spring of 1994.

He was appointed by Gov. Lawton Chiles to the Governor's Commission for a Sustainable South Florida, which worked for four years to establish a consensus plan for Everglades Restoration. The work of the commission became the framework for the Comprehensive Everglades Restoration Plan (CERP) approved by Congress and is currently being implemented throughout south Florida.

Wade's work on restoration issues continued with his appointment by Gov. Jeb Bush to the Governor's Commission for the Everglades. He is a past member and co-chair of the South Florida Water Management District Water Resource Advisory Commission (WRAC) as well as a past member and chairman of the Lake Okeechobee Advisory Committee of the WRAC. He is also a past member of the District's Lower East Coast Water Supply Planning Committee and the Budget Review commission. In addition, Wade served on the South Florida Agricultural Council Water Commission, the Caloosahatchee Water Management Advisory Committee and is a director of the Everglades Agricultural Area Environmental Protection District.

Wade is a Certified Public Accountant and a Certified Internal Auditor. He is a member of the American Institute of Certified Public Accountants, the Florida Institute of Certified Public Accountants and the Institute of Internal Auditors.

A native of Long Island, New York, Wade grew up in Miami and is a graduate of Christopher Columbus Catholic High School. He received his BS in accounting from Florida State University in 1976. He became a Certified Public Accountant in 1979 and a Certified Internal Auditor in 1984.

Wade is a member of the Leadership Florida Class XII (1993-94). He is married to Jennifer Matthews Wade. They live in Clewiston, Florida and have one grown daughter, Morgan Christine Lang.

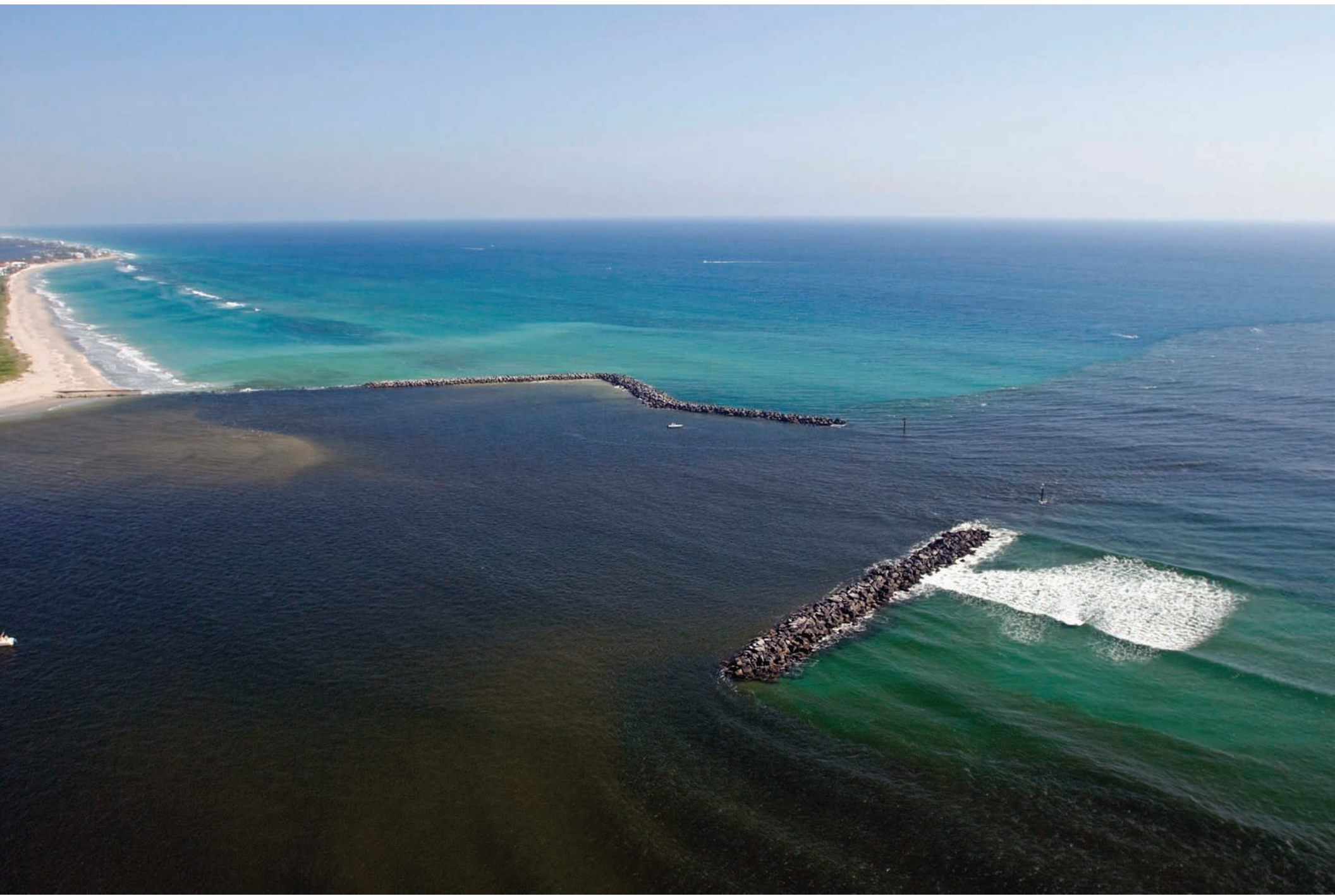
Fred Fanizzi, General Manager, Quail Creek Plantation

Fred Fanizzi is the managing partner of Quail Creek Plantation located in Okeechobee, Florida. Quail Creek Plantation is a hunting and clay target shooting preserve that also operates a commercial cow calf operation and citrus groves. Timber production and wildlife management are also responsibilities of this well rounded operations manager. Fred is a lifelong resident of the state of Florida and a 1991 graduate of the University Of Florida College of Agriculture with a BS degree in Animal Science. Fred is a member of the Florida Cattlemen's Association as well as the Okeechobee County Cattlemen's Association and the Okeechobee Economic Development Council. Fred is a recent graduate of the Wedgworth Leadership Institute for Agriculture and Natural Resources. A lifelong conservationist and well-traveled sportsman, Mr. Fanizzi is extremely concerned in the symbiotic relationship between conservation groups and production agriculture regarding the long term sustainability of our natural resources.

David Hille, Chairman, Cabbage Inc.

Started the company in 1984 to supply cabbage to the cabbage industry. Cabbage Inc grows cabbage seasonally in Florida, Georgia, Kentucky, Ohio, Michigan and New York to supply our customers year round. We started farming in Indiantown 5 years ago to have a more consistent supply during the winter months. Florida is a very critical part of Cabbage Inc's supply. We are stewards of the land and believe in doing things the food safety way. We bring many jobs to our area, by doing so we bring many suppliers to the business. David's hobbies are boating and traveling.



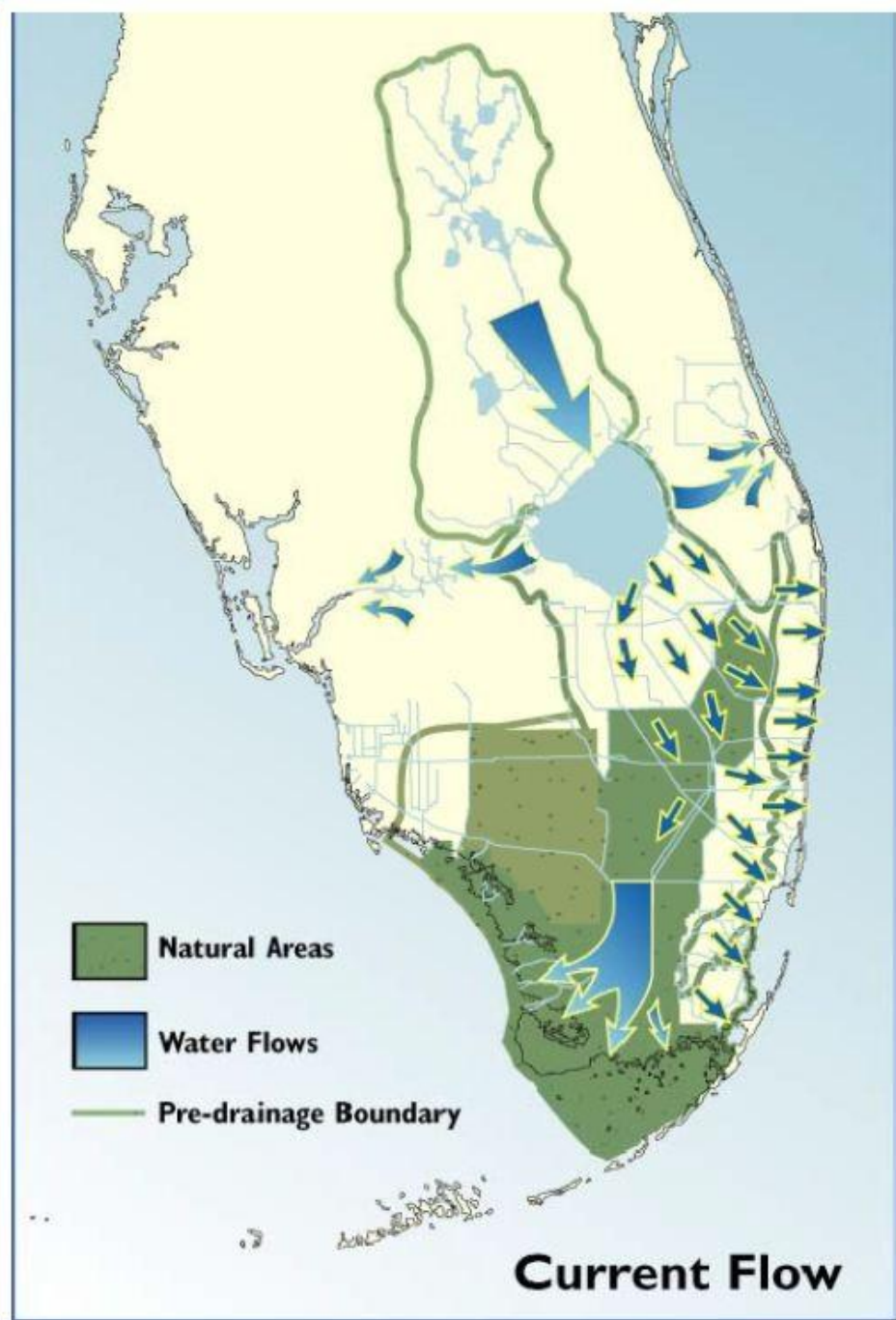
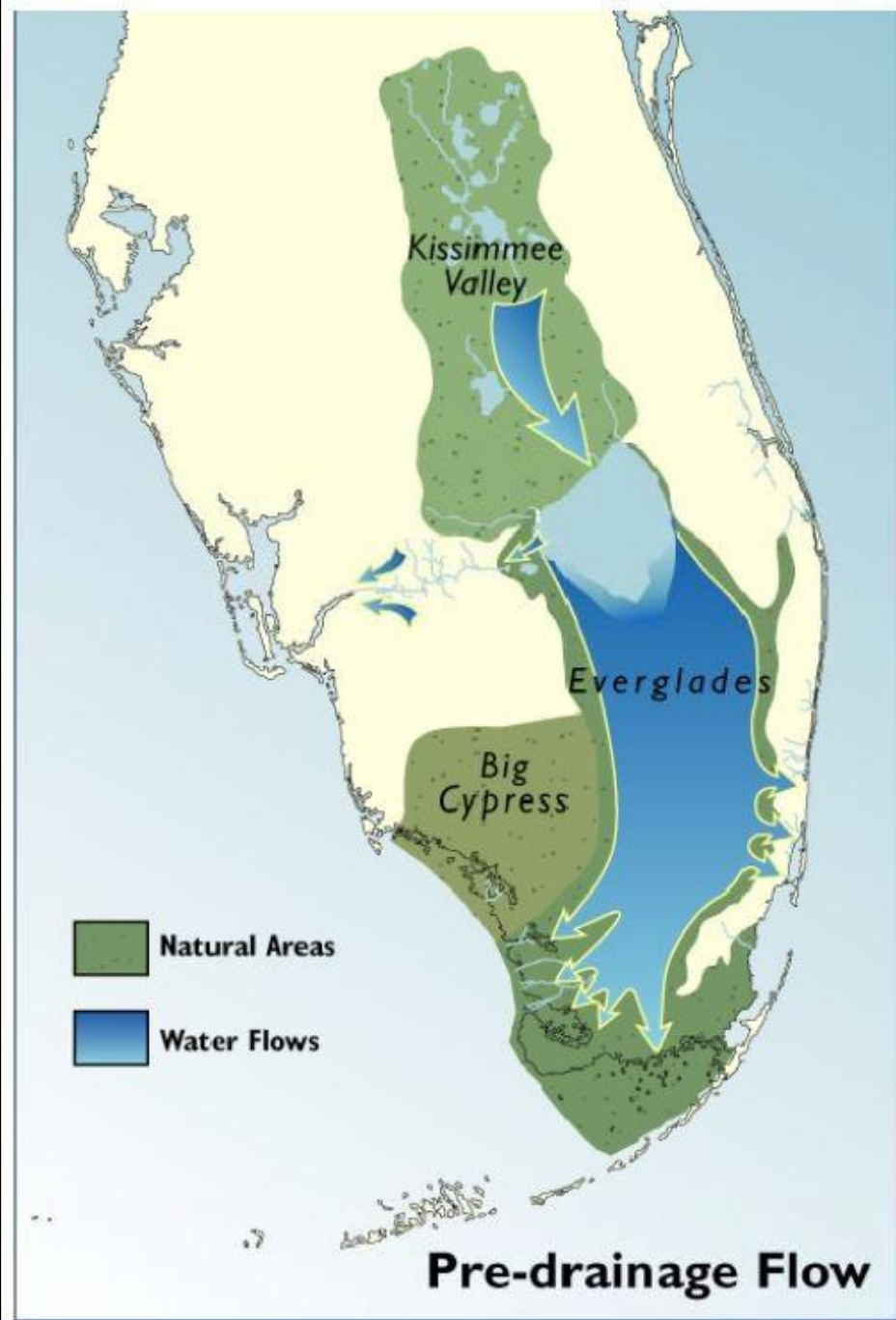


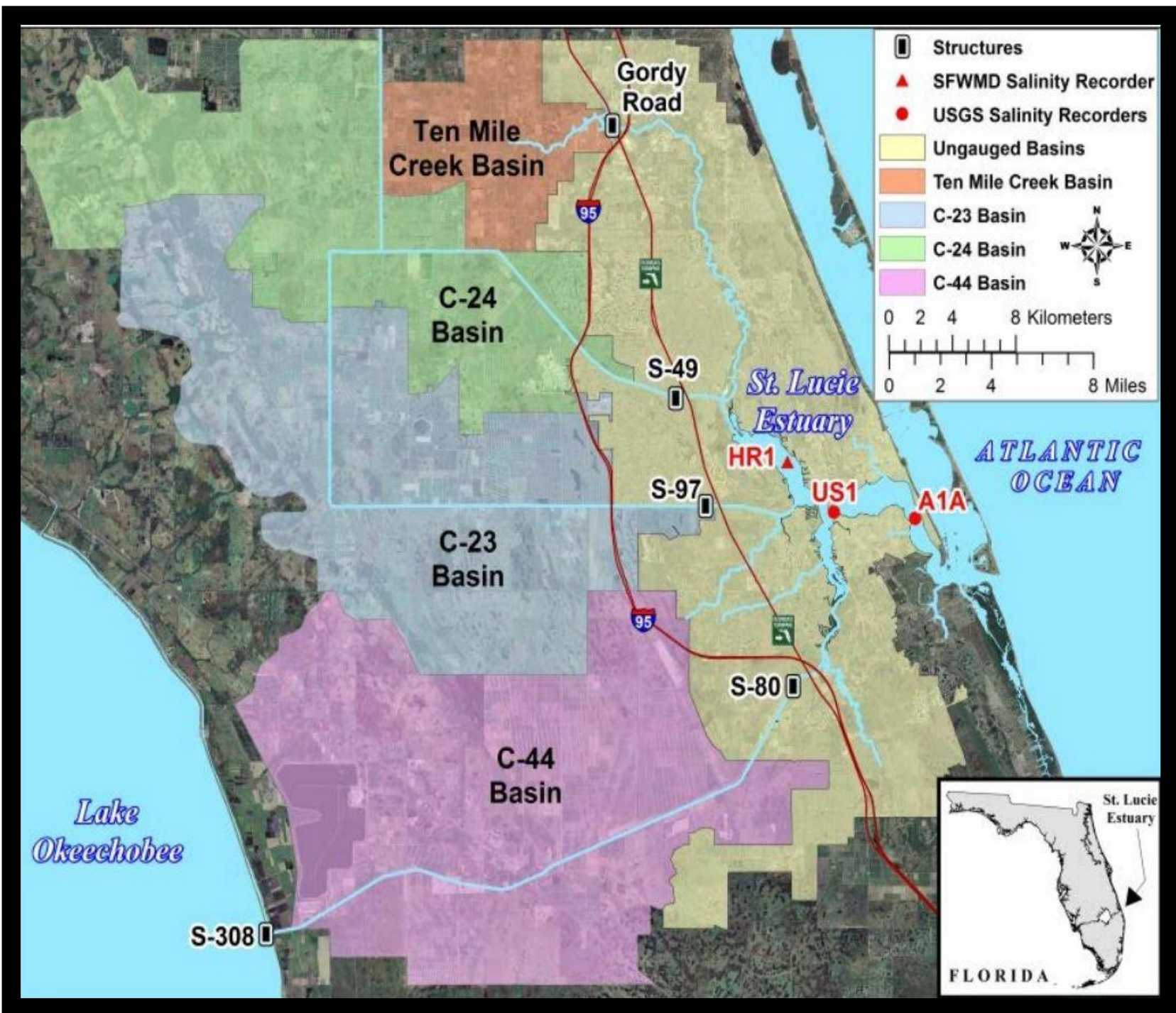












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